DOCUMENT RESUME

ED 077 510 JC 730 149

AUTHOR	Bradford, Clarence; And Others
TITLE	The Study of Junior Colleges. Volume III, Measuring the Dimensions of Community Colleges.
INSTITUTION	California Univ., Los Angeles. Center for the Study of Evaluation.
SPONS AGENCY	National Center for Educational Statistics (DHEW/OE), Washington, D.C.
PUB DATE	Dec 72
CONTRACT	OEC-0-70-4795
NOTE	240p.
EDRS PRICE	MF-$0.65 HC-$9.87
DESCRIPTORS	Factor Analysis; *Item Analysis; *Questionnaires; *Statistical Analysis; *Statistical Data; Student Characteristics; Technical Reports; Test Construction

ABSTRACT

The final volume of The Study of Junior Colleges contains the measurements and instrumentation derived from the project for future evaluation surveys. Part One, Prediction of Student Outcomes: Multivariate Analysis of the Survey Data, provides: an introduction to the analyses; data reduction, factors, and scales; students' objectives and enrollment status; students' achievements and attitudes toward their education; student ratings, backgrounds, and program emphases; and freshmen-sophomore differences as estimates of persistence. Part Two provides a critique of the survey questionnaire items, and Part Three provides prototypic items for future junior college surveys--items for student, faculty, and counselor questionnaires. Frequency distributions and other statistical data are provided in tables. (For related documents, see JC 730 146-148.) (KM)

THE STUDY OF JUNIOR COLLEGES

Contract No. OEC-0-70-4795

VOLUME III
MEASURING THE DIMENSIONS OF COMMUNITY COLLEGES

By

Clarence Bradford

in collaboration with

James W. Trent
Felice Karman
Ricardo Klorman

December 1972

CENTER FOR THE STUDY OF EVALUATION
UCLA
Graduate School of Education
Los Angeles, California

Educational Research and Development

Department of Health, Education, and Welfare
U.S. Office of Education
National Center for Educational Statistics

Preface

The present volume is the third of three reporting on The Study of Junior Colleges undertaken in conjunction with the UCLA Center for the Study of Evaluation for the U.S. Office of Education. The project was initiated under the auspices of the Office of Education's National Center for Educational Statistics. It was designed to help close the gap that exists between data needs of policy-makers and available bodies of statistics on junior colleges. The primary purposes of the project were: (1) to ascertain major problems and needs articulated by leaders in the junior college, (2) to determine the availability and quality of data existing in the central records of junior colleges, (3) to identify other important descriptions that can only be obtained directly from students and staff, (4) to assist the Office of Education in determining what criteria should be used to measure and analyze the special needs and performances of junior colleges, and (5) to serve as a first step in the development of a national data bank on junior colleges.

The purpose of the data bank will be twofold: (1) to supply the information needed by administrators, educators, and researchers who are concerned with the evaluation and future development of the community junior college; (2) to provide data for the various federal, regional, and state agencies which are concerned with the problems of policy formation and program development in the junior colleges.

In order to meet its objectives, the project included the following activities:

> (1) Interviews with leaders and experts in the junior college field to obtain their assessment of the objectives, problems, needs, and processes important to the continued development of the junior college and to obtain their perceptions of the quantitative information needed to clarify and assist in dealing with these issues.
>
> (2) An analytical review of the literature on junior colleges to determine further the issues and variables relevant to the development and evaluation of junior colleges.
>
> (3) In-depth case studies of 15 different types of junior colleges to assess the dynamics of junior colleges and to determine those variables important to the understanding of these dynamics.

(4) The development, pretesting, and justification of a prototypic Junior College Supplement to the Higher Education General Information Survey (HEGIS) system.

(5) The development of a series of measurements and items contained in comprehensive prototypic survey instruments for use of future evaluation research on junior colleges.

Volume I contains the analytic review of the literature on junior colleges. Volume II contains the results of the case studies and concomitant surveys, and the administrative interviews; tables and other appendix materials related to Volume II are bound separately in Volume IIA: Technical Appendixes. The measurements and instrumentation derived from the project for future evaluation surveys comprise this volume, Volume III. The HEGIS Junior College Supplement has been submitted to the Office of Education separately.

The following staff members at UCLA were on the Advisory Committee for The Study of Junior Colleges and contributed to the initial implementation of the project: Arthur M. Cohen, Associate Professor of Higher Education; Principal Investigator and Director, ERIC Clearinghouse for Junior Colleges; Richard D. Howe, Assistant Executive Director, League for Innovation in the Community College; Director, UCLA Junior College Leadership Program; and C. Robert Pace, Professor of Higher Education; Director, Higher Education Evaluation Program, Center for the Study of Evaluation.

Dr. John Lombardi of UCLA's ERIC Clearinghouse for Junior Colleges graciously contributed to the development of the project's interview schedule for administrators. He also chaired the "Santa Fe Revisited" conference which was sponsored by the project to obtain inputs from major leaders of the junior college movement who originally presented their ideas in a series of discussions at Santa Fe College under the coordination of Joseph Fordyce. The participants of this conference are also gratefully acknowledged.

William Keim, former Assistant Superintendent of Community Services, Cerritos College, and current Chairman of the Community Services Committee of the American Association of Junior Colleges, helped in the preparation of instrument items relating to community services. Jane Matson, Professor of Guidance and Counseling, California State University, Los Angeles, assisted The Study of Junior Colleges staff in the development of the counselor questionnaire as well as with the selection of case-study sites. In addition,

two project staff members visited the National Laboratory for Higher Education to discuss matters of sampling and survey techniques and selection of case-study schools with various NLHE staff, and in particular with John Roueche, who was at that time Director of the Junior and Community College Division.

A number of other agencies were likewise consulted, such as the ERIC Clearinghouse for Junior Colleges, UCLA, whose files were used extensively in preparing the literature review (a major determinant of items included in the survey forms) and the UCLA Survey Research Center which offered suggestions regarding sampling techniques, questionnaire construction, and survey procedures.

A number of experts in the field were most helpful in their review of the HEGIS supplement. These included Dorothy Knoell, Dennis J. Jones, Charles R. Walker, William Morsch, and Edmund Gleazer.

Outstanding supporting staff members included Barbara Vizents, Jan Newmark, Lenois Stovall, Vera Lawley, Janet Katano, Irene Chow, and, most particularly, Lenore Korchek. Jane C. Beer was most helpful in preparing the project's volumes for publication. Winston Doby and Robert Collins graciously assisted with the site visits. Richard Seligman, Associate Director of the UCLA Center for the Study of Evaluation, was most helpful in directing the Center's resources towards the successful completion of the project.

The extensive project could not have been completed without the exceptional talent and commitment of the research staff. These included Patrick Breslin, Barbara Dorf, Robert Fitch (who initiated the early coordination of the project), Ronald Hart, Janet Hoel, Roberta Malmgren, Ann Morey, and Clare Rose. Clarence Bradford and Ricardo Klorman were indispensable in their overseeing the data analyses. Ernest Scalberg was equally indispensable in his direction of the sub-project focussed on the development and pretesting of the HEGIS supplement. Above all, appreciation is extended to Michael Gaffney and Felice Karman who directed the project during its inevitably difficult and complex stages.

James W. Trent
Principal Investigator

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

PART ONE
PREDICTION OF STUDENT OUTCOMES: MULTIVARIATE ANALYSIS OF THE SURVEY DATA

CHAPTER 1

INTRODUCTION TO THE ANALYSES

The analyses in this volume [illegible] dy of Junior Colleges represent an effort to cull information fr[illegible]ese data about major relationships which might be followed in subsequent studies, evaluations, or reports on community colleges in the United States. The community college as an educational institution represents a relatively unknown quantity. The overall study and the analyses of this volume represent a step in the preliminary phases of understanding the community colleges in their internal functionings and in their relationships with other educational and social institutions.

Because of the paucity of precise data on the community college system, the data collection for this study was designed so as to gather information on as wide a range of potential factors as was feasible. The specifications for the nature of the analyses of the relationships in the data were in a like manner very general. The present analyses involve several stages, including a preliminary examination of the data in order to generate a structure within which some coherence could be given to the analysis. The structure used in the analyses is in the form of issues related to the community college system.

The first phase involved the derivation of scales and factors from the original data. These are reported in Chapter 2. The following chapter examines the first of four sets of questions posed to the data: "What are the community colleges doing?" This chapter examines the variables in the data that are related to and differentiate between the types of occupations for which the community colleges are preparing their students, the types of objectives the students have, the students' majors, and the difference between the students in the day and evening programs and the students in the full-time and part-time programs.

Chapters 4, 5, and 6 examine different aspects related to considerations of the quality of the education of the community colleges. Chapter 4 uses as criteria for the analyses for the differing samples, the students' grades, the certainty the students have of achieving the goals, and the measures of importance to them of completing their college wo[illegible].

Chapter 5 considers the quality of the educational programs in terms of the sets of ratings in these data. These were variables obtained from one of the three samples in which the students rated differing aspects of the school services, the instructional and counseling staffs, and the counseling services. Chapter 6 examines the final set of the four sets of questions or issues about which the analyses centers, an examination of what factors are related to student attrition.

A final cautionary comment must precede the analyses. These are exploratory, in the sense in which Tukey (1970) uses the term. The results are not conclusions but indicators of variables and relationships which may with profit be used as preliminary findings in designing new studies or in reexamining these data.

CHAPTER 2

DATA REDUCTION, FACTORS, AND SCALES

This chapter will describe the summary measures derived from the raw data for use in the relational analyses that constitute the major portion of this volume. The measures derived from the set of questions common to the three samples of students and those questions unique to each sample will be discussed in separate sections.* An additional section briefly describes a set of 14 scales that characterize the 15 colleges that were surveyed. This latter set of variables was developed from the faculty questionnaires and from other data gathered in the study.

A large proportion of the derived variables are factor type scores. In most instances the factor solution was a varimax rotation of the principal components, eigenvectors, derived from the raw correlation matrices. The scores used and reported on are not exact factor scores. The scores represent unit weighting of the principal variables, coefficients greater than 0.50, of the respective factors.

Common Items

The factors relating to the students' personality were derived from the set of 56 responses to Items 30A and 30B of the questionnaire.** The first 28 of these responses are the students' reactions to the stem "I generally like" and the second 28 responses are to the stem "I generally am." This set of 56 responses was analyzed twice, once as two separate sets of 28 responses each and once as a total set of 56 responses. The two analyses of 28 items yield essentially the same results as the analysis of the total set of 56 items. The results reported here follow from the analysis of these items taken as one total set. A total of 14 factors accounting for 45 percent of the variance of the responses were rotated. Nine of these factors were retained, and are interpreted in this report

*A description of the common items and three survey forms submitted to the students is contained in Chapter 2 of Volume II of The Study of Junior Colleges.

**The questionnaires, including marginal responses to all items are reproduced in Volume IIA: Technical Appendixes.

and used in subsequent analysis and discussed in the following chapters. The first factor, CREATIVE, is operationally defined by the subject responding positively to the item indicating that he is creative, and positively to the item that he is individualistic and negatively to the item that he is dutiful The distributions of the responses of the students on this creativity factor and the other factors in this personality set are given in Tables 2-1 through 2-9 in Appendix A.

The second factor, ANXIETY, is defined by positive responses to the students on the items that he is worried, he is nervous, he is anxious, and he is restless and a negative response to the item that he is calm. The third factor, SCIENTIFIC, representing an interest in science, is defined in terms of the positive responses by the student on the items indicating that he likes solving long complex problems, he likes science and mathematics, he likes discovering how things works, he likes scientific displays, and he perceives himself as scientific. The fourth factor, OPENNESS, is defined by the students responding positively to the items indicating that he likes novel experiences, he likes original research work and likes original work. The fifth factor, NON-COMPLEXITY, is defined in terms of the student's positive response to the items indicating that he likes predictable outcomes to problems, he likes the one right answer to questions, he likes friends without complex problems, and he likes perfectly completed objects. The sixth, an AUTHORITARIANism factor, was defined in terms of positive responses to five of the items. These five items are the student likes unquestioning obedience, he likes strict law inforcement, he like the tried and the true, he likes strong family ties, and he likes unwavering patriotism. The seventh factor, INTROSPECTIVENESS, is defined in terms of the positive responses by the student to the item that he is introspective and the item that he is contemplative. The eighth factor, THEORETICAL, is defined in terms of four items: the respondant likes critical consideration theories, he likes contemplating the future of society, he likes men interested in ideas, and he likes detecting faulty reasoning. The ninth and final factor reflecting COMPULSIVE self-ORGANIZATION, is defined in terms of positive responses to three items. The three items are the student likes a set schedule of activities, he likes a proper place for everything, and finally he is well organized.

This set of nine factors is of some interest in itself, since the dimensions developed here differ from the set of dimensions that have been found in previous research. In particular separate factors for openness and creativity were found in these data. Further, both the creativity and the openness factor were independent of the authoritarianism factor in these data. Past research has shown that the authoritarian factor was one pole of a bi-polar dimension reflecting openness at one end and authoritarianism at the other. This analysis seems to show that community college students, as evidenced in these data, see no necessary conflict between any possible combination of positions on these nine factors or personality attributes. In particular they would seem to consider it possible for an individual to be both creative and non-open, as well as to be both authoritarian and open.

The second set of factors derived from the items common to all forms of the questionnaire was developed from the responses to question 27. This question asks the students to choose from a list of 14 reasons for entering college, the most important for them. A set of variables reflecting a weighting of these students' choices was derived, correlated, and factored. Five factors accounting for 57 percent of the variance of these data were obtained. The first of these factors is a bi-polar one reflecting at one end a desire to obtain a broad liberal education and an appreciation of ideas as a reason for entering college, and at the other end, the concern to obtain skills or training for a job. The second factor, also a bi-polar one, reflects on one end the desire to take courses for personal enjoyment and enrichment as the reason for going to college and at the other end the desire to prepare for a business or profession.

The third factor is also a bi-polar one. At the positive side of the scale is the reason "To develop my knowledge and interest in community and world affairs;" At the negative side, "To make up some high school deficiencies." The fourth factor, NONE, reflects that the student really did not have any reasons of his own for wanting to go to college. This factor was defined in terms of the students' choice to the responses indicating, "I didn't know what else to do," and "My family wanted me to." The fifth factor includes as reasons the desire to participate in the social and athletic activities of the school. Tables 2-10 through 2-14 show the distribution of student scores on these factors.

The presence of the first two bi-polar factors in these reasons, both showing at one extreme a practical orientation and at the other extreme a concern for education in itself, would seem to indicate that for these students the practical concern and the more traditional intellectual concern can exist side by side. The student can both want an education for itself and for its practical benefits.

The third set of factors based on the common items was derived from student responses to question 31. In this question the respondant was asked to indicate for his mother, his father, and himself which of a set of 14 activities they engaged in. The responses relating to the mother's activities, the father's activities, and to the respondent's activities were analyzed separately. These three yielded essentially similar results, 3 major factors in each set and one minor factor. For each parent and for the student, scores on the three major factors were derived and used in the analyses discussed in the following chapters.

The first of these major factors reflects organizational activities and community involvement. It was defined in terms of a weighting of the responses indicating activity in professional and labor organizations, participation in local politics, belonging to community organizations, and doing volunteer work in charitable organizations. The second of these activity factors reflects intellectual activities and cultural interests. This factor was defined in terms of responses indicating the reading of many books, the reading of many magazines, and the frequent discussion of politics. The third factor represents an interest in current affairs and was characterized by a weighting on two of the responses, that the individual reads the daily newspaper and that the individual usually watches the news on television each night. The distributions of the responses to these factors are given in Tables 2-15 through 2-23.

In addition to these three sets of factors four items were substantially recoded within this common set of questions. The first of these recodings involves item 17 of the questionnaire, the item relating to the present major and the previous major of the student. There were two recodings of this item (see Tables 2-24 and 2-25). The first recoding schotemized student responses into a transfer major, indicated by a choice of one of the first 43 alternatives, and a major reflecting a two-year program,

indicated by a choice of responses 44 through 76. A second recoding of this item divided the transfer majors into two parts, the first part reflecting an emphasis on the liberal arts, including science and humanities (responses 1 through 21). The second transfer emphases reflects choices of pre-professional training (responses 22 through 42).

The majors of the two-year programs were divided into three sub-categories. The first of these sub-categories of the two-year programs reflected an emphasis on agricultural science, arts, and the technical studies (responses 44, 50 and 63 to 75). The second of the two-year program categories reflected an emphasis on health services, and on public personal services defined in terms of responses (51 and 62 of the question). The third category of these two-year programs emphasized business area studies (responses 45 through 49).

The second recoding was of responses to item 8, the item in which the student indicated his father's occupation, his mother's occupation, and his own expected occupation (see Table 2-26). The responses of housewives, un-employed, and do not know were eliminated from the analysis. The remaining 10 choices were divided into three categories or levels. The first category comprises responses to the first 2 choices, general laborer and semi-skilled workers such as machine operators and retail clerks.

The second category or middle level of occupations was defined in terms of responses 3 through 8 of the question. This category includes skilled clerical or sales workers, skilled craftsmen or foremen, protective service workers, owners or managers of small business, farm owners or managers, and semi-professionals workers. The third or high occupational level was defined in terms of responses 9 and 10, including managerial and professional level I and the managerial and professional occupations II.

The third major recoding of the items of this common set was the recoding of the responses to item 4, the item indicating the racial or ethnical group to which the respondent belonged. This item was recoded to identify two major groups, one consisting of Caucasian students, and the other all minority students. The frequency distribution of this student ethnic classification is shown in Table 2-27.

The final of these major recodings was for item 18, the item indicating the educational objectives of the student. It was recoded to include

the first three responses to the item as one category, including all students planning to transfer to a four-year college. These three responses indicate students' plans to earn an Associate of Arts degree and transfer, to complete two years of junior college and transfer without an Associate degree, and to transfer before completing two years.

The second recoded category included those students responding to choice 4 indicating plans to earn an Associate of Arts degree only. The third category, defined in terms of responses 5 to 7 of the question, indicates interests in obtaining a particular skill or a vocational certificate. The fourth and final recoded category of these education objectives includes the other reasons the students gave for attending their institution (see Table 2-28).

Form A Items

Of the three unique sets of items, Form A has the fewest variables. The unique items of this form centered around the financial concerns of the students; one set of items indicating the source of financial support that the students had; a second set indicating the student's knowledge of the availability of scholarships, grants, and loans; and a third set indicating the educational consequences of their working. A set of factor type scores were derived from this last set of items. The data for this factor were derived from question 47 which asks the student "How does working affect your educational progress?" From the three responses two factors were extracted, accounting for 49 percent of the variance. These two factors seem to indicate the relative severity of the problems caused by working. The first factor includes the responses indicating that the student has earned a lower grade or has failed a class because of working. The second factor includes the responses that the student may have to withdraw from school temporarily or may not be able to finish school because of working (see Tables 2-29 and 2-30 for score distributions on these factors). Despite the fact that these two factors account for 49 percent of the variability of the responses they do not produce any major discrimination among the students. The lack of discriminating power of these factors and of these items generally reflects the fact that the students reported that working causes them little or no hardship; less than one-third of these students reported that working would even reduce their study time. In essence, the lack of discriminating power of these factors serves to confirm the evidence

yielded by the other items in this form of the questionnaire, that only a small minority of students perceived finances or working as a problem that might hinder their education.

Form B Items

The majority of the items unique to Form B deal with the students' previous high school and college experiences, with the individuals who influenced their decision to go to college, and with the reasons for their choice of their particular college. One set of these items has been re-scaled and will be reported here. From the other items unique to Form B, three factors were determined: one having to do with students' belief in their own self-worth, a second pertaining to their attitudes toward ambitions, and finally the Rotter scale indicating the extent to which they felt themselves to be under internal versus external control.

Item 51 on Form B presented the student with 10 statements to which he indicated the strength of his agreement or disagreement. Two rotated factors were extracted from the intercorrelations of these two items which accounted for 54 percent of the total variance. The first factor had high a positive loading, indicating disagreement with its 5 component statements (3, 5, 8, 9, 10) that reflected a negative attitude towards self. This first factor also has a high negative loading on statement 7, "On the whole, I am satisfied with myself," the negative loading indicating disagreement with the statement. This first factor clearly reflects positive feelings toward self. The second factor was defined by a high positive loading on four of the five statements that reflected a positive attitude toward self, the high positive loading indicating disagreement with those statements. That fact that two factors were extracted from the data, the first indicating a positive attitude toward self and the second a negative attitude, shows that for these students there was some degree of independence between feeling positive about one's self as necessarily contradictory. These two factors were labeled EGO-STRONG and EGO-WEAK respectively. Tables 2-31 and 2-32 show the statistics of the distributions of these two factors.

Item 50 of the Form B questionnaire asks the students to indicate the strength of their agreement or disagreement with 10 statements pertaining to their feelings about ambition in themselves and others. Two rotated factors accounting for 50 percent of the total of variance were extracted. The first of these factors was defined by high positive loadings on statements 3, 5, 6, 7, 8, and 9. Each of these six statements expresses in some way a belief in the importance of using one's friends and circumstances to better oneself. For example, statement 3 says "One of the things you should consider in choosing your friends is whether they can help you make your way in the world;" and statement 9 says "It is worth considerable effort to assure oneself of a good name with the right kind of people." This factor was re-scaled so that a high score indicated an acceptance of these means for furthering one's ambitions, and was labeled AMBITION-SOCIAL.

The second factor from this set of items was characterized by high loadings on statements 1, 2, 4, and 10. Each of these four statements expresses a view that ambition is a good thing for an individual personally to have. For example statement 10 says "An ambitious person can almost always achieve his goals." The scoring on these factors also was reversed so that a high score indicates agreement with these statements. As rescaled this factor has been labeled AMBITION-PERSONAL. The statistics pertaining to the distribution of both factors are given in Tables 2-33 and 2-34.

Question 50 contains 8 responses from the Rotler internal-external control scale. The individual score on this scale which reflects the degree the respondent feels that he is controlled externally is the sum of the number of a) responses to items 3, 5, and 8 together with b) responses to items 1, 2, 4, 6 and 7. The distribution of these scores are given in Table 2-35.

Item 42 asks the students to check the three most important reasons, from a set of 14, for their attending their particular college. The frequence of the responses to these choices were such that only the first three were retained as separate choices. The remaining choices, 4 through 14, were grouped together as an "other" category. The first three choices were "Low cost," "Close to home," and "Particular courses I wanted were

offered here." The responses to these items were re-weighted with a weight of 3 given to the responses listed as the most important, weight of 2 to the responses that were of next importance, a weight of 1 to these ranked third in importance, and a weight of 0 given to those responses not chosen by the student This set of re-weighted responses have been labeled as REASON-COST considerations, REASON-NEARNESS, and REASON-PARTICULAR COURSES respectively. The statistics on the distributions of these measures are given in Tables 2-36 through 2-38.

Form C Items

The items unique to Form C of the student survey deal with topics centering around the students' perceptions of their needs for and use of counseling services, their rating of their counselors, their rating of several aspects of their colleges' student personnel services generally, and their rating of their faculty. Five sets of additional items relating to the students' perceptions of themselves and their difficulties in college were examined for factors and/or scales and are reported below.

Item 33 of Form C presents the students with a list of 18 types of problems that are typical of those facing students. In one set of responses the students indicated which problems that they needed help with at some time. In separate sets of responses the students indicated which problems they discussed with a counselor. In a third set of responses the students indicated if they found their counselors to be helpful with these problems. Factor analyses were made of each set of responses. The data on the types of problems with which the students needed help yielded five factors accounting for 52 percent of the total variance. The items indicating which problems they discussed with their counselors yielded six factors, also accounting for 52 percent of the variance; and the items for which help was received yielded six factors, accounting for 49 percent of the variance.

Five of the factors were essentially the same across all three of the analyses. The first of these factors deals with personal and social problems and was defined by Item 12, "Personal and social problems;" Item 13, "Problems with family;" and Item 14, "Understanding myself better." The second of the factors relates to problems associated with the students' academic difficulties, and was defined by high loadings on Item 1, "The

meaning of my test scores;" Item 2 "Improving my grades;" Item 5, "Improving my studying habits;" and Item 7, "Getting off of academic probation." The third of these factors relates to the students long range educational planning and was defined in terms of loadings on Item 3, "Changing my major;" Item 4, "Changing my occupational plans;" Item 10, "Selecting a transfer college;" and Item 11, "Future educational plans". The fourth of the factors relates to the students' desire for help in selecting good classes and instructors. This factor was defined by loadings on Item 8 "Selecting classes", and Item 9 "Selecting good instructors." The fifth and final factor deals with the problems relating to the students' need for money and employment, and was defined by Item 16, "Obtaining employment while in college;" Item 17, "Finding employment after finishing my studies;" and Item 18, "Obtaining financial aid." Tables 2-39 to 2-53 contain the distribution of these five sets of factors for each of the three areas, where the students needed help, sought help, and received help.

In question 42 of Form C the students were presented with a list of 33 problems which might hinder their academic progress and were asked to rate each of them in terms of their perceived severity. In general these data were notable primarily for their lack of any indication of any serious problems according to the students' perceptions. Nevertheless, these data were subjected to a factor analysis in hopes of their future utility. Seven factors accounting for 49 percent of the total variance of 32 items were extracted and rotated.

The seven sets of factor scores were also calculated for use in subsequent analyses. The first factor, PROBLEM-BORED, reflects the student's feeling that college is not interesting, that he is wasting his time, and that his classes are dull. The factor was defined by responses to items 1, 4, 6, 14, and 29. The second factor, PROBLEM-TOO DIFFICULT, reflects such feelings on the part of the student as that he is not smart enough or that the courses are too hard, and results from responses to items 2, 5, and 20. The third factor, PROBLEM-UNDECIDED, reflects indecision about both school and career and includes responses to items 12 and 25. The fourth, PROBLEM-BUSY, includes the student's feelings that he is too busy, has too much work, and has too many outside activities. The factor is composed of items 9, 22, and 24. The fifth, PROBLEM-INDIFFERENT,

reflects the student's dislike of school and feeling that he has nothing else to do; it includes responses to items 17, 20, and 27. The sixth factor indicates the degree to which the student feels that his educational background is inadequate. This measure includes responses to items 13, 16, and 21. The seventh factor, PROBLEM-OTHER, incorporated miscellaneous other problems for the students, such as transportation and financial and family difficulties. This factor combines responses to items 3, 8, 11, and 15. Tables 2-54 through 2-60 show the distributions for these seven factors.

In question 47 of Form C the students were asked to rate themselves on 19 dimensions of their skills and abilities. The correlations of these ratings were factor analyzed and six factors accounting for 63 percent of the total variance were extracted and subjected to a varimax rotation. The first of these factors, labeled SOCIAL SKILLS, is defined in terms of the high loading of responses to six of the items: ability to deal with people, leadership ability, understanding others, emotional adjustment, social self-confidence, and communication skills. The second factor, labeled ACADEMIC SKILLS, is made up of the high loading of four of the items: academic ability, study habits, academic self-confidence, and mathematics skills. The third factor, ARTISTIC SKILLS, is made up of loadings on artistic ability and creativity. The fourth factor, MATHEMATICAL/MECHANICAL SKILLS, consists of loadings on mechanical ability, mathematics ability, and athletic ability - perhaps partially reflecting sterotypic masculine interests. The fifth factor, labeled HOMEMAKING SKILLS, is made up of high loadings on homemaking skills and the ability to care for small children. The sixth factor, labeled CLERICAL SKILLS includes high loadings on clerical ability and homemaking skills. The statistics for these 6 factorial scales are given in Tables 2-61 to 2-66. A point of an immediate and obvious interest is the fact that the last three factors distinguish between the sexes, with factor 4 reflecting primarily masculine orientation, and factors 5 and 6 primarily a feminine orientation. The two feminine scales further separate themselves into one reflecting orientation toward interests in small children and the other orientation toward "typically feminine" job skills.

Question 36 of Form C asks the students to rate the counselor he sees most often on nine different characteristics. An attempt was made to derive a Guttman scale from seven of the nine items but it did not prove fruitful. The nine items were then subjected to a factor analysis which yielded only one factor, accounting for 60 percent of the total variance. The failure of the Guttman scaling despite the unidimensionality of the set of responses reflects the fact that the students who rated their counselors high on one characteristic tended to rate them high on all characteristics. Therefore, the scale derived from the factor analysis was obtained by suming the students' responses across all of the characteristics. The distribution of this scale is shown in Table 2-67.

Question 46 of this form presented the students with a set of 13 characteristics on which they were asked to rate their instructors. These data like the data from question 36 on the rating of the counselors were subjected to both Guttman scaling procedure and to factor analysis. As in a previous case the Guttman scaling did not yield any meaningful results and the factor analysis yielded only one factor. That single factor, labled RATINGS OF INSTRUCTORS, accounted for 53 percent of the variance of these 13 characteristics. These items were re-scaled so that a high score indicates a favorable rating, the score being the sum of the ratings across the 13 items. The distribution on this scale is shown in Table 2-68.

Question 43 asks the students to rate the strength and weaknesses of 9 aspects of their school's student personnel services, including counselling. A scale labeled RATINGS OF SCHOOL PERSONNEL SERVICES which is the sum of the rating across the nine aspects was calculated. The statistics on this scale are presented in Table 2-69.

School and Faculty Scales

Fourteen additional scales were derived from data on the colleges themselves and from responses to the faculty questionnaire.

Five of these scales were determined by the project staff from a variety of data sources. This set of scales includes indices on school size, the relative innovativeness of the institutions, their socioeconomic status, their location, and their relative emphasis of academic versus vocational programs.

A number of factors and factorial scales resulted from analyses of the faculty data. Some of these concerned the educational benefits that the faculty thought the students should and do receive from their institutions. Six benefit factors were calculated, labeled PERSONAL-SOCIABLE, ACADEMIC DEVELOPMENT, and VOCATIONAL DEVELOPMENT for both do receive and should receive. Six other factors derived from the faculty data were based on the abridged College and University Scales (CUES, see Pace, 1969). These factor type scores represent six dimensions on which the faculty characterized environmental aspects of their colleges. The first four dimensions are AWARENESS, PROPRIETY, COMMUNITY, and SCHOLARSHIP, closely corresponding with the original CUES scale with the same labels. The two additional scales, STUDENT BENEFITS and INSTITUTIONAL RIGIDITY, go beyond the original CUES scales. The fourth original scale, PRACTICALITY, did not result from the factor analysis of the faculty data. The derivations and the distributions of the faculty factors are discussed further in Chapter 6 of Volume II of The Study of Junior Colleges.

Summary of the Factor and Scale Derivations

The factors, the scales, and the recodings reported on above were derived primarily to simplify and to clarify the variables to be used in the analysis of the major relationships of the data, to be reported on below. While a considerable expense in both time and effort went into the development of the scales it must be emphasized that these derivations represent at best a first approximation of the kind of data refinement that would be necessary for a full understanding of the data of this study. The major objective guiding the entire effort is the desire to discover some variables which might reflect the major dimensions of the impact, and the problems, of the community colleges. Such an objective is typical of the kind of exploratory research done in the behavioral sciences. The severe restriction of time and resources available for this analysis is also typical of this kind of exploratory research. The quality and volume of the data collected and the scope of the objectives of the study set a standard for analysis that cannot be met either quickly or cheaply. Said more directly, more and better factors and scales can and should be developed from these data by a more intensive and extensive analysis.

Despite the limitations of the analysis, and despite the fact that these factors and scales were derived primarily for instruments for subsequent analyses, the nature of some of these scales are of some interest in themselves. The factors and scales show some distinctions which at first seem surprising. One example of this is seen in the personality factors derived from item 30 of the common set of student questions. As indicated above, two substantily independent factors in this set represents on the one hand openness and on the other hand authoritarianism. This would seem to imply a somewhat interesting trend to prefer simultaneously the "tried and true" and "novel experience." The factors derived from item 51 of Form B reflect a similar situation. This question dealt with how the students felt about themselves. The data yielded a factor reflecting strong positive attitudes toward self, and a substantially independent factor reflecting distinctly negative attitudes toward self. A similar tendency is also seen in the responses indicating how the students felt about a set of statements relating to ambition. Of the two factors derived one reflects the students' attitudes on ambition as a desirable quality in an individual, and a second factor suggests that they are more ambivalent toward the behaviors perceived as characteristic of an ambitious person. This would seem to imply that a person can at once admire the ambition in a person and simultaneously disapprove of the behavior to which his ambition leads him. A similar contrast is seen in two of the factors based on the reasons the students gave for having entered college. One of these bi-polar factors reflects their desire to obtain a broad liberal education at one extreme and their desire to obtain skills and training for a job at the other. The other factor indicates at one end of the pole the students' desire to take courses for their personal enjoyment and enrichment and their desire to enter a career in business or profession at the other end of the pole. Apparently, therefore, some of these students perceive their college education as a good in itself and simultaneously as a means to a profitable skill or profession, which is not unreasonable.

In contrast to the distinctions found in some of the above sets of items, others show a surprising lack of distinctions or contrast. The items in Form C, indicating the students ratings of their counselors and

instructors, reflect this phenomenon. In each case these data indicate that the students make no distinction in their ratings between different characteristics of their counsellors and of their instructors. This finding departs from other research showing that the student ratings result in clearly distinct factors (see Trent and Cohen, in press). Moreover both of these items show that the students in the present study rated both their counselors and their instructors uniformily high. Most of them also perceived their instructors as well prepared, interested in their teaching, holding the students' attention, grading fairly, etc. This uniformly positive view is also reflected in those items which asked the students about their problems. The factors extracted from the questions asking the students how working has affected their educational progress indicate that for most of these students working had little or no detrimental effect on their education progress. The data from the questions asking the students about the seriousness of a set of 33 typical student problems did yield a set of factors. However, only a small minority of the students indicated that these factors represented any more than minor problems.

Another cautionary remark must be made before moving on from this summary of some aspects of the factors and scales into the analysis of the interrelations among variables. The tendency noted in the immediately preceding disc.. must be viewed tentatively until the interrelations of these factors together with all of the other variables are examined in the subsequent relational analyses. Those analyses suggest the measurements derived have greater utility than indicated up to this point of the discussion.

CHAPTER 3

STUDENTS' OBJECTIVES AND ENROLLMENT STATUS

As stated above this part of the more intensive data analyses focuses primarily on the intended student outcomes and the processes of the community college educational system. In terms of outcomes, a first consideration is the kinds of jobs for which colleges are preparing their students, or rather the jobs the students reported planning to enter. A related question is concerned with the differences between the students who planned to transfer and those who did not, with the assumption that the former will be going on to four-year colleges or universities, and that the latter will be completing their formal education in the community college system itself. The type of instruction that students are receiving, in as much as this is reflected by the students' current majors, can be considered an indicator of the "processes" of these educational systems. These processes, of course, affect the students' objectives. Two other related questions concern (1) the programs for full-time students compared to those for part-time students, and (2) the programs for the day students compared to those for evening students. The differences between the credit programs and the non-credit programs, which can also be part of the processes of these schools, is not considered in these analyses since less than 10 percent of the students surveyed were enrolled in non-credit courses.

Student Occupational Expectations

The data most directly indicative of jobs for which students are being prepared comes from the student responses to item 8 of the common form. In one part of this item the student was instructed, "Please also indicate what you expect your occupation will be." The 13 response categories for this item included 10 broadly stated occupational classifications, and classifications for housewives, the unemployed, and those who could not anticipate their occupation.

The marginal report, in the Technical Appendixes to Volume II, shows the numbers and the proportions of students responding to each of these categories. For the more intensive analyses, the item on the students' expected occupations was recoded with three occupational classifications, and a fourth category labeled "missing." The first category of the recoded item

incorporated all those who chose responses 1 or 2 of the original item, the general worker and the semi-skilled worker classifications. This has been labeled "semi- and unskilled occupational class." The second category of the recoded form includes responses 3 through 8, or occupations that can be considered as "skilled jobs." This category includes the skilled clerical or sales workers, skilled craftsmen or foremen, protective service workers, owners or managers of small businesses, farm owners or managers, semi-professionals, and technicians. Recoded into a third occupational classification, "professional," were responses 9 and 10 of the original item. The housewives, the unemployed and the "do not know" options were recoded as residual data and included 696 subjects. Table 3-1 shows a frequency distribution of the recoded item.

Using the recoded variable, now labeled JOB-EXPECTED, SELF, as the dependent or criterion variable, a series of analyses were conducted to determine which of the other variables in the data were related to these differences in occupational expectations. In the first step of the analysis, a series of regression analyses were conducted. The first of these stepwise regressions used only those variables common to all three forms of the student questionnaire as independent variables.* Three other analyses were performed in which the common items, together with those items unique to one of the three forms of the questionnaire, were used as the independent variables. Table 3-2 shows the statistics derived from the regression equations using those items common to all forms as the independent variables. The other regression equations, using the data and items from the three separate forms, are not reported since almost none of them were significantly related to the criterion variable.

Since the efficacy of considering the recoded variable measuring occupational expectations as truly continuous may be questioned, three discriminant analyses were conducted to examine the relationships between the independent and criterion variables. Students indicating anticipated occupations in the professions were contrasted with those indicating some other expected occupation in the first discriminant analysis. In the second

*See Table 4-1 for a complete list of the items used from this common set.

analysis, students indicating planned occupations in the professions were contrasted with those who anticipated entering skilled occupations. Those who planned upon skilled jobs were contrasted with those who expected to enter semi- and unskilled occupations in the third analysis. Since the two-group discriminant functions are equivalent to regression functions on dichotomized dependent variables, stepwise regression procedures were used for the three analyses. The results are shown in Tables 3-3, 3-4, and 3-5 respectively.

Not unexpectedly, Table 3-2, using expected occupations as the dependent variable, treated as a three-category continuous variable, and Tables 3-3 and 3-4 show quite similar results. In each equation the importance of completing college to the student was the most important of the predictors. The negative co-efficient reflects the reverse scoring of the item, a lower number indicating higher importance to the student. The vocabulary scores and two of the factor scores from the set of reasons students gave for attending college are also common t each of the three equations.

Further similarities would be seen among these equations if more variables had been entered into the equations. For example, mother's occupation, which is a significant predictor in the regression equation shown in Table 3-2, would have entered after one more step in the discriminant function shown in Table 3-4. Similarly, the personality factor, "Openness," shown as a significant predictor in Table 3-4 would have been the next predictor to enter the discriminant function shown in Table 3-3.

Overall these results are consistent and expected. The following variables are positively related to students' plans to enter higher level occupations: (1) the feeling that completing college is important; (2) vocabulary scores; (3) stress on obtaining a liberal education rather on gaining immediate job skills; and (4) interest in education as a means to a career or a profession rather than as an experience enjoyable in itself.

The relative magnitudes of the predictive power of the regression, multiple R^2 of 0.13 in Table 3-2, and the discriminating power of the two discriminant functions of Tables 3-3 and 3-4, approximately 0.11 each, indicate that the relationships accounting for occupational choice are at least as well accounted for by the three category version of the dependent variable as by the dichotomized versions.

However, this indication does not seem to be substantiated by results of the discriminant analysis contrasting the group of students who anticipated skilled jobs to the group expecting to assume semi-skilled and unskilled jobs (Table 3-5). Two variables are significant predictors in this latter table and significant predictors in at least one of the equations shown in Tables 3-2, 3-3 and 3-4, "REASON-LIB ED" versus "SKILLS" and "JOB-MOTHER." With respect to each of these two variables, the students planning to go into the professions and those planning unskilled or semi-skilled jobs contrast in a similar manner to those planning skilled jobs. Both of the former two groups were more likely to have said they seek a liberal education, and to have said their mothers had higher status jobs than were those who planned to enter skilled jobs. (While the R^2 of 0.08 of Table 3-5 is small, the results are highly significant

$$[F(5,448) \geq 7.918;\ p \leq 0.0005].)$$

One--and perhaps the easiest--explanation for this apparent inconsistency is the presence of considerable sampling and measurement error in the data. Another plausible explanation might be that assumptions of the simple linear effects of both the regression and the discriminant functions are inappropriate to the problem.

In order to examine this latter assumption, a saturated log-linear model was fitted to a six-way contingency table (see Goodman 1970, 1972a, 1972b). The coefficients of the model together with their standardized counterparts are shown in Table 3-6. The input for this analysis included expected occupations recoded and dichotomized together with a dichotomized recoding of five of the more important predictors from the regression equation shown in Table 3-2. These predictor variables are (1) the importance of college completion to the student; (2) the "Reason for Education" factor, liberal education versus specific job training; (3) vocabulary, (4) the personality factor, "Introspection;" and (5) the "Reason for Education" factor, enjoyment versus career orientation. The variables are dichotomized as shown in the table.

Equation 1, below, shows how the coefficients of this log-linear model can be interpreted in much the same way as analysis of variance models. The equation shows the model for a dichotomized criteria with two dichotomized predictors, A and B.

Equation 1)

$$Qij = B + B^{Ai} + B^{Bj} + B^{ABij},$$

where B is a constant,

B^{Ai} is effect of predictor A at level i (i=1,2) on the criterion variable;

B^{Bj} is effect of predictor B at level j (j=1,2);

B^{ABij} is effect of A at level i and B at level j;

$B^{A1} = -B^{A2}$, $B^{B1} = -B^{B2}$, $B^{AB11} = B^{AB22} = -B^{AB12} = -B^{AB21}$;

and $\ln Qij = fij1/fij2$,

Where fij1 is frequency of individuals at level i, on A, level j on B and level 1 on the criterion,

and fij2 is frequence at level i on A, level j on B, and level 2 on the criterion.

The constant plus the sum of the coefficients for the main effects and the coefficients for the interaction effects of the predictors yield a total which is the log of the ratio of the expected value of two cell frequencies. Thus, the coefficients in Table 3-6 indicate that the sum of the constant factor, 2.8133, and the 31 main and interaction effects yield a total. The natural log of this total is equal to the ratio of the frequency of those choosing a career in the professions over the frequency of those choosing a career in skilled or unskilled jobs for those who would be classified as falling in category 1 on each of the five predictor variables.

In other words, assume that we have selected the sub-set of individuals who have high vocabulary scores, who are introspective, who are seeking a liberal education, who are career oriented, and for whom completing college is important. Given this group, the ratio of the frequency of those who expect to have occupations in the professions over the frequency of those who expect to have occupations in other areas will be equal to the natural logarithm of the sum of the coefficients. Moreover, under the null hypotheses that the expected values of these coefficients are each equal to zero, the standardized representations of these coefficients are distributed as standardized normal deviates. Hence the significance of the differing components of this model can be seen directly.

The data indicate that the main effect of each of the five predictors except for the "Introspection" scale are significant. Apparently, a more important element, however, is the fact that there are nine significant interaction effects in the model, five second-order interactions, two third-order and two fourth-order interactions. Moreover, the factor score REASON-ENJOYMENT versus REASON-CAREER enters into eight of these nine significant interactions, and all of the second order interactions involving this variable are significant. These coefficients of the log linear model shown in Table 3-6 together with the regression and the discriminate coefficients shown in Tables 3-2 through 3-5, demonstrate that a combination of motivation and personality factors determine a small but significant proportion of the variability of occupational choice of these students.

The linear models, the regressions, and the discriminant functions appear to reflect which of the variables are important in this determination. However, the log linear analysis of the contingency table together with inconsistencies in the other analyses show that there are major interactions among these predictors as is to be expected. For example, those individuals high on both the factor relating to going to school as preparation for a profession or a business career and high on the Introspection scale are less rather than more likely to indicate an intention of entering a profession. However, high scores on this "Reason" factor together with high scores on the vocabulary scale show an opposite effect. A much more detailed analysis on these data using a variety of models may yield results which will show combinations of and interactions which in part determine occupational choice. The present analysis only gives an indication of what variables may enter into these determinations.

Educational Objectives

Another and closely related way of viewing the potential student outcomes of the community colleges is in terms of the educational objectives indicated by their students. Item 10 of the common questions asked the students to indicate which one or more of nine alternatives reflected their educational objectives at their present institution. The responses to this item were recoded in the form of four dichotomized variables as shown in Table 3-7. This table also shows the proportion of students who chose each of these four variables. The figures total more than 100 percent since the

item instructed the students to check as many of the objectives as applied to them. However, since the total was only 114 percent, obviously only a minority of the students indicated more than one educational objective.

A series of stepwise discriminant functions were again conducted, using each of the new, dichotomized educational objective variables, in turn, as the dependent variable. The resulting equations and statistics are presented in Tables 3-8 through 3-11. As would be anticipated, the predictor variables included in these equations as well as the coefficients of these variables closely reflect the finding of the equations predicting the students' expected occupations shown in Tables 3-2 through 3-5 above. Six of the eight variables included in the equation in Table 3-8 in particular are common to the set of variables included in the earlier regressions and discriminant functions. However, two new variables show an interesting difference in the equations predicting educational objectives. The negative coefficient for the first of these new predictors, AGE, shows that the students planning to transfer from the community college tend to be younger than those not planning to transfer. The second of the two variables, CERTAINTY OF GOALS, reflects the students' certainty that they will achieve their educational goals (scored with a low number indicating a high degree of certainty). Its positive weighting indicates that those students planning to transfer are less certain or secure that they will achieve their goals than are the other students.

Another important difference between the equation shown in Table 3-8 and the earlier equations is the magnitude of the squared multiple correlation coefficient. In Table 3-8, 18 percent of the variance has been accounted for on this educational objective in contrast to approximately 12 or 13 percent in the most efficient of the equations predicting expected occupation.

The smaller number of significant predictors and the smaller amount of explained variance seen in the three discriminant functions shown in Tables 3-9 through 3-11 was to be anticipated, since the groups defined by these three educational objectives would be expected to be less homogeneous than the others. However, the discriminant equation differentiating the group selecting educational objective 4 from the others shows that this group is markedly different from the other groups defined in terms of these

educational objectives. This is the group that had as an educational objective taking courses, personal enjoyment or enrichment, or making up high school deficiencies. The coefficients shown in Table 3-11 show that this group is characterized by a greater concern for enjoyment of college education than for career aspirations, less concerned about finishing college, more likely to have a higher vocabulary score, and more likely to come from homes where the students' mothers had a higher education than was the case for the other students in the sample.

In order to clarify the differences between those students choosing educational objectives recoded as OBJECTIVE-TRANSFER and those students choosing OBJECTIVE-COURSES (those having as objectives specific courses or skill preparation), an additional discriminant function was examined. This analysis defined a new contrast with those choosing recoded educational objective 1 as one group and those choosing educational objective 3 as the other group. The result of this analysis is shown in Table 3-12. Only slight differences in comparing Table 3-12 with Table 3-8 are found. This is principally seen in the fact that the factor score reflecting a career orientation which acts as a major discriminant differentiating the transfer students from all others, does not enter the equation differentiating the transfer students from those students taking vocational courses for specific jobs or occupational skills. Overall these analyses of the students indicating choices of educational objectives reflect much the same types and discrimination as evident in the analysis of the students indicating their expected occupations.

Students' Majors

The information on student majors taken from item 17A, all forms, used in these analyses is a dichotomized variable recoded from the 76 response choices given in the questionnaire. All of the transfer majors (responses 1 through 43 of the item) were recoded as one category; the remainder of the response choices, reflecting non-transfer or two-year programs, were recoded as a second response category. Anticipations were that the variables related to the choice of major would be similar

to those variables related both to occupational choice and to the students' educational objectives. Table 3-13 shows the statistics from a discriminant function using the dichotomized variable on the students' current majors as the criterion variable, and the variable from the common set of items as predictors. These coefficients show that the students in the transfer major programs in contrast with those in the two-year terminal programs had more of an orientation toward a liberal education than specific job training, came from backgrounds in which their mothers had lower status jobs, saw themselves as being interested in intellectual activities, and finally, had a lower college grade point average.

The coefficients by themselves may not necessarily be inconsistent in their distinction between the two groups of students, but neither do all of them appear clear in their meaning. The lower college grades for the transfer majors could easily reflect the fact that they may be taking more difficult courses. Their greater intellectual interests corroborates previous research (see Volume I). However, the fact that mothers of students in transfer majors have lower status jobs than mothers of the students in the two-year programs does depart from the consistent findings of previous research and is not open to an easy explanation. Moreover, this equation seems considerably different from the equations seen in Tables 3-2, 3-4, and 3-8 in which expected occupations and educational objectives were examined. In these previous tables contrasts were made between those planning professional careers and those planning other level jobs, or between those planning to transfer after their junior college work and those planning not to transfer. In each of these previous discriminations the variables reflecting the importance to the students of completing college and the factor reflecting an orientation for a career preparation were the major predictors. Neither of these variables appear important in the discrimination between the transfer majors and the two-year program majors.

In order to better understand the similarities and differences seen in the variables determining the students' selections of occupations or educational objectives and their selection of majors, a set of cross tabulations were calculated. Tables 3-14 through 3-16 show the cross tabulations of the three variables, the dichotomized variable reflecting selection

or non-selection of OBJECTIVE-TRANSFER, the dichotomized variable reflecting the choices of major, and the three-level variable of expected occupation. Tables 3-17 through 3-19 show cross tabulations of OBJECTIVE-TRANSFER against the students' majors for each of the three levels of the variable, JOB-EXPECTED, SELF. These tables reveal what seems to be some major inconsistencies if not contradictions in the students' selection of educational objectives and majors, and their career expectations.

Table 3-14 shows that almost 24 percent of the students who planned to transfer after their junior college work were simultaneously in a program or major that did not continue beyond two years of junior college. Table 3-15 shows that of the 930 students who were planning a career in the professions, 235 of them or slightly more than 25 percent indicated that they were pursuing a vocational major. A similar result is seen in Table 3-16 where almost 26 percent of those who planned a career in the professions also indicated that they did not intend to go on beyond their junior college work. Table 3-19 which presents the cross tabulations of choice of educational objectives by choice of major, shows that 37 percent of those students who indicated that they wished to follow a career in the professions were either in a vocational educational program or did not plan to transfer after junior college or both.

The results appear inconsistent, at least for those students who indicated that they planned a career in the professions but simultaneously indicated that they were not planning to pursue a four-year college program. The most obvious explanation is that these students erred in their responses. However, an alternative hypothesis might be that the inconsistencies do not reflect response error but in fact reflect a real confusion of goals and the means necessary to reach those goals for some of the students.

An additional analysis was performed in an attempt to obtain information that might bear more directly upon this problem. This analysis was conducted primarily to focus on the variables related to the types of problems the students have in planning their programs, and is developed more fully in the following section of this chapter. However, since the analysis bears upon the possible interpretation of the inconsistencies, it will be reported in part here as well.

The analysis included only those students who indicated that they planned to have a career in the professions. The students who indicated that their educational objective was to transfer after their community college education and who also were enrolled in a transfer major were placed into one category, and all other students of this subsample were placed into a second category. This created two groups of students both of whom had indicated that they planned to have a career in the professions, with one group's selection of educational objectives and majors being consistent with their career choice and the other group's selection being inconsistent. This classification of students was developed for the samples that responded to each of the three forms of the questionnaire. In each sample a discriminant function was computed using the dichotomized variable of consistent versus inconsistent choices as the criterion variable and using all of the items in that particular form as the "predictor" variables.

Since the variables that went into these different discriminant functions are to a large extent different, the resulting equations differ also. However, there are some common elements between the sets of discriminant functions. For two of the discriminant functions the coefficients show that those students who were inconsistent in their choices were much more likely to be taking non-credit courses than were those students who were consistent. In the third function the variable reflecting credit or non-credit courses is of border line significance. Two of these discriminant functions also show that the students who were inconsistent in their choices were also older than the students who were consistent. Coefficients of other variables that are unique to to the individual forms show that those students who were inconsistent in their choice of career, educational objective, and major were more likely to indicate that they had difficulty in seeing their counselors and had a problem with their own indifference toward school. On another form those individuals who were inconsistent in their choices are differentiated from the consistent students in that they relied more heavily for their support on their wives' earnings and that their employment was more likely to be for reasons other than school attendance.

Overall these functions suggest that the students giving highly inconsistent choices tend to be older, tend more likely to be enrolled in non-credit courses, and are more likely to be working for reasons other than supporting themselves in school. In addition, there is an indication that these students experience some difficulty with their attitudes toward school and in obtaining counseling help. While the results do not rule out the possibility that measurement error is producing the inconsistencies, they do yield data that may point to real and very serious problems for some students in the community colleges--problems which should be of serious concern to all school administrators.

Enrollment Status

Previous research has revealed major differences in the outcomes of students according to their enrollment status (see Trent and Medsker, 1968). Part-time students were particularly likely to fail to meet their educational objectives. Consequently this final section of the analyses on the students' objectives and enrollment status examines the factors that distinguish the colleges' regular day students from their night students. These analyses, like the preceding ones, will examine program differences in terms of the characteristics of students that participate in them. Item 15 of the set of items common to all of the student questionnaires, asked the students, "When are your classes scheduled?" Responses to this item were recoded to include students enrolled in both day and night classes with those in day classes only in order to distinguish those students who attended college at night only.

Table 3-20 shows the discriminant functions for the variable day versus night schedule as the criterion variable, using as the set of independent variables the remaining variables common to all forms. As in the previous analyses these discriminant functions using dichotomized variables as criteria were processed using step-wise regression routines. Table 3-21 shows similar discriminant functions using the student responses to item 13 of the common items, asking, "Are you a full-time or a part-time student?", as the dependent or criterion variable. In both of these discriminations, the variable of age is the major factor with the part-time student and the student attending nights only

clearly being older than the regular, full-time students. The importance of finishing college is also significant in both these equations and in the discrimination differentiating day from night students, the variable reflecting the importance of college to the students' parents is significant.

The analyses using the additional independent variables unique to forms B and C did not produce results meaningfully different from those shown in Tables 3 20 and 3-21. However, the data obtained from Form A of the questionnaire did yield significantly different discriminant functions. Tables 3-22 and 3-23 show these functions, again using the classification of day and night students and the classification of full-time versus part-time students as the criteria. For these discriminations, in addition to the variables from the common set used above, the responses to item 10 of the common set asking the students about their present employment plans and the responses to item 11 asking the students to indicate how many hours per week they worked were added to the predictor variables from the common set. The responses of the students to items 40 through 46 of the set of items unique to form A were also included in this predictor set. These latter items asked the students about the percentage of financial support they received from various sources, the extent to which they felt that finances were a problem to them, their knowledge and use of various loans or scholarship programs, as well as information about the type of work they were presently doing.

The two tables (3-22 and 3-23) show that the addition of these other predictors makes a major difference in these discriminant functions. The number of hours worked per week is clearly the major factor in discriminating the full-time from part-time students, and the day from the night students. The variable reflecting the students' current employment plans in both instances is the next most important discriminator. The variable of age also enters these equations, showing that the part-time and the night students were older than the regular day students. Both equations also show that the percent of support the students received from the G.I. Bill is a significant discriminator. Further, these results show that the part-time students were more likely to be from a minority group than the full-time students. Finally, the coefficient for the variable

indicating the students' reasons for employment shows that another highly significant element discriminating the full-time from the part-time students is that the part-time students are more likely to be working for purposes other than their education than are the full-time students.

Overall, Tables 3-20 through 3-23 show that the major factors differentiating the full-time day students from the part-time night students are financial. The very large R^2 in both equations, approaching 60 percent, shows the dominance of these financial considerations. The part-time students not only have to work in order to pay for their education but these data indicate that they have financial needs other than educational. The presence of the factor indicating the proportion of educational support obtained from the G.I. Bill indicates that with additional financial support many of the part-time and night students might be able to attend regular programs. This possibility must be considered in relation to such other factors as motivation, however.

Additional analyses that were conducted are not reported here because the results were not significant or meaningful. Among these was the analysis of the differences between those students who indicated that they were taking only courses for credit and those students who indicated that they were taking non-credit courses. One reason this analysis did not prove meaningful may be due to the fact that less than 10 percent of the students in this sample indicated that they were taking non-credit courses.

Additional analyses were also attempted in an effort to see if some distinction could be made between the students in terms of the benefits they received from their community college education apart from their objectives. However, the only information available on the benefits that the students reportedly did receive is derived from the factor scores obtained from item 40a of the faculty form. The three factors derived from these faculty responses reflected emphasis on (1) personal and social development, (2) academic development, and (3) vocational training. However, since the scores on these factors could only be assigned to students on the basis of the schools they were attending, no discrimination was possible between which students were receiving which benefits. As it turned out the faculty felt that their students should receive much more in the way of personal and academic development than they were receiving. Although

this was a global feeling, the discrepancies between the faculty's perceptions of what their students did and should receive varied significantly among the 15 institutions. This matter is treated in more detail in Chapter 6 of Volume II.

An attempt was made in this chapter to focus on questions concerning the students' objectives and enrollment status. Consequently an examination was made of the kinds of occupations the students were preparing for; the kinds of programs that they said they were following; the kinds of majors or curricula that they were studying; and the differences between day and night and full-time and part-time students.

Clearly a student's choice of a career is determined to some degree by factors related to his background, his aptitude, his personality,and his motivations. Thus, the factors determining the student's choice of an occupation, and concomitantly, his choice of a college program, are in part beyond the control of the community college. However, some of the motivational factors, such as the variable reflecting the student's interest in a liberal education, may be influenced by the college on a long term basis if these factors related to educational and occupational choices are understood and dealt with. Some analyses, in particular the log linear model applied to the contingency tables, may yield information as to the nature of the complex interactions of these factors in partially determining students' plans and aspirations.

Another important element indicated in these analyses is reflected in the importance of finances to the regular pursuit of a college education. These data indicate that the need for money, in particular the need for money over and beyond the cost of college is a very important factor in determining whether the student will fully pursue his education, in spite of the fact that the students generally rejected finances as a problem that would hinder their education (see Chapter 5, Volume II).

Perhaps the most important concern raised by these analyses is that almost 25 percent of the students seem to be confused concerning the relationship between their career aspirations and the steps necessary to attain these aspirations. The analyses indicate that there may be a systematic difference between those students whose expressions of what they wish to do and how they plan to go about it are compatible, in contrast to those students that express less congruent responses. Because of the seriousness of this problem and because of the large proportion of students involved with it, the issue must be investigated further.

CHAPTER 4

STUDENTS' ACHIEVEMENTS AND ATTITUDES TOWARD THEIR EDUCATION

The present chapter deals directly with the students' performance in college and some of their attitudes towards their educational objectives and college experiences. The data have indirect implications for the issue of how well the community colleges are doing their job. The ideal criteria for these analyses would be measures of student learning and student behavioral and attitudinal changes. The difficulty of such assessments in any type of study, however, and the impossibility in a cross-sectional study need not be repeated here. The most nearly direct measures or best approximations available in these data are the students' reports of their college grades, considered here as their report of the average of judgments made by the faculty of their performance.

The other three criteria examined in this chapter, while still less direct, are fundamental to students' ultimate educational outcomes. The measure of the students' expressed degree of certainty of achieving their educational goals is considered in this analysis to be meaningfully dependent upon both their performance and upon their perceptions of the utility of their college work. The students' response to whether or not they were attending the schools of their choice is used as a criterion with similar assumptions that their answers were in large part based upon their judgments of the value to their goals of their experiences in their schools. The final criterion examined in this chapter, the importance to the students of completing college, given similar assumptions, again reflects in part the students' assessment of what a college education will do for them. While these criteria are at best indirect measures of how well the schools are doing their jobs, they jointly reflect a variety of student responses, each in part determined by the students' experiences in their colleges.

The analyses in this chapter will report on the relationships between these criteria and the set of predictor variables available for each of the three samples of students who filled out the three different forms of the questionnaire. Thus the set of equations examined for the sample of students administered Form A of the questionnaire includes

as potential predictor variables those listed in Table 4-1 from the set of variables common to all forms of the questionnaire. In addition, this set of potential predictors includes those variables unique to Form A given in Table 4-2. The set of potential predictors for the sample of students administered Form B includes variables from the set common to all forms, Table 4-1, plus those unique to Form B, Table 4-3; similarly Table 4-4 contains the variables unique to Form C.

College Grades

Table 4-5 shows the three regression equations computed for the sample of students given each of the three forms of the questionnaire. College grades are the dependent variable and the full set of variables representative of the respective forms are the independent variables. One of the more obvious things about these three equations is that, with the exception of high school grades and age, they do not share the common items administered to the students. High school grades, of course, have repeatedly been found to be the best predictor of college grades. The present sample offers no exception to this finding.

In the sample administered Form A of the questionnaire, poorer grades are related principally to the youth of the students and secondly to poorer high school grades. Significant but of lesser importance in predicting poorer college grades is the factor score indicating students' fears that working may cause them to fail, and the faculty factor score indicating that the faculty perceived their colleges as offering fewer student benefits than did the faculty at the other colleges. The poorer grades also are related to students not having enrolled in credit classes, and to students having enrolled in transfer majors. These variables account for a small to moderate amount of the variability in college grades, approximately 16 percent.

For the sample that was administered Form B of the questionnaire, the more significant variables related to lower college grades are lower high school grades, and relatively stronger parental influence in the determination of college attendance. Also clearly significantly related to poorer grades are weaker ego strength, minority status, and registration in transfer majors.

For the sample of students administered Form C of the questionnaire, the principal variables predicting poorer college grades are the extent to which they felt that they needed help with academic problems, their high school grades, and two factor scores, each indicating the students' poor opinions of their academic skills. Of minor power are the indices for age and for the amount of time worked per week. For the sample which responded to Form C of the questionnaire approximately one-third of the variance (31 percent) was accounted for by these predictors.

Overall, then, as indicated above, these data confirm the usual finding that the major factor determining grades is past performance. Yet, beyond this consistent finding there is clearly some indication that the students' programs have some relation to their grades. As seen in the equation for Form B, those students who indicated that they planned to transfer as well as those students who were in junior colleges oriented toward academic programs seemed to be earning poorer grades. Perhaps this finding indicates that the course material and the grading criteria are more difficult for those students. But perhaps the most important finding in these equations is the predictive power of the variables reflecting the students' self-perceptions of their problems with academic performance. The students who said that they needed help with their academic problems, that they lacked academic skills, and that their course work was too difficult were in general getting poorer grades. There may be some real question as to whether these attitudes produce low grades, or whether the low grades lead to the attitudes. Whichever way the causality works, it is clear from these data that some of the perceptions of the students about themselves have a very direct bearing upon how well they are, in fact, doing in their community colleges.

The strength of these self-ratings is somewhat surprising, given that the marginal data show that only a very small percentage of students indicate that they have any problems (see Volume II). But these regressions would seem to indicate that despite the overall tendencies on the part of students to minimize their problems, those that do indicate a problem are in fact the ones who, seen objectively, are having real academic difficulties.

Certainty of Educational Goals

The students' perceived certainty about the likelihood that they will achieve their educational goals is the next criterion examined. The analysis shows which of the independent variables best discriminate between the more certain and the less certain students. Table 4-6 includes the discriminant functions calculated on the responses to the three forms of the questionnaire. For the sample associated with Form A, a significant but very small amount of the variability is accounted for. It shows that the student who is uncertain about his goals is more likely to be anxious, to be a freshman, and to feel that working may result in his having to discontinue his education.

For the sample of students administered Form B, the results show a coherent set of variables that significantly discriminate the more from the less certain student. The less certain student compared to his more certain peer is apparently more likely to rate himself lower in ego strength, to have decided to go to college late in high school or afterwards, and to indicate that he had no good reason for choosing to attend college. Further, the uncertain student is more likely to be a transfer major and to indicate that he benefited considerably from his high school athletics. The implication of these results seems clear: a significant proportion of this sample of students were unsure of the reasons they went to college and why they were staying.

The equation for Form C shows that only three predictors are significant for the sample of students administered this form of the questionnaire. Here again the pattern of variables characterizing the less certain students yields a consistent picture. They find college work too difficult, they are undecided about what to do, and they feel that they lack the required academic skills.

The consistency of the results seen in Table 4-6 makes this analysis meaningful despite the small amount of variability accounted for by the equations. Approximately 42 percent of the students in this study were classified as relatively uncertain about their educational plans. These results suggest that a significant proportion of the students may be unable to profit from their college work, either because of their lack of direction or their lack of requisite academic skills. This situation reflects human as well as economic costs, for some of these students are clearly unhappy in their present position.

College of Choice

The dependent variable for the three equations shown in Table 4-7 is the student response to the question of whether or not the school he is presently attending is the college of his choice. While all three of these discriminant functions are clearly significant, at best they account for only a very small proportion of the total variability in the dependent variable. Nevertheless, they do give information that is of some value as indicators of factors determining the student's choice of institutions. The equation associated with sample A shows that both of the predictors are related to the financial problems of the students. The students who indicated that their present school was the school of their choice were more likely to be working to keep themselves in college. In sample B, those students indicating that the school they were attending was the one of their choice were more likely to be enrolled in regular classes, and/or more likely to have chosen their present school because of the courses offered. For sample C, the students who were in the college of their choice were less likely to have indicated any of the miscellaneous academic problems, they were more likely to be students in two-year or vocational majors, and they were more likely to have rated their school's academic counseling as adequate. In summary, these three equations indicate that it is a combination of economic factors, particular vocational courses, and academic satisfaction that makes the community college the first choice for some students. While these results can be interpreted as exploratory indicators, these interpretations are at best tentative, given the very poor explanatory power of the equations.

The Importance of College Completion

The fourth criterion variable considered in this set is the importance to the student of completing college. It may be at least indirectly related to the question of the colleges' impact since this perceived importance could be a factor in determining the success of the students in their educational careers and it may be taught or reinforced by the college experience. Several of the same common items were significantly related to the criterion variable in the three regressions shown in Table 4-8. The factor score indicating the students' reason for attending college, with enjoyment at one end of the scale and career preparation at the other, is a major predictor in each of the equations. The variable indicating the importance of college completion

to the students' parents is also a major predictor in each equation. The proportion of students indicating they plan to transfer, the students' expected occupations, the proportion indicating they are full-time students, and a second reason factor score--NONE--are each significant predictors in two of the equations.

Putting these predictors that are common to two or more equations together with those appearing only in one equation we get a fairly coherent picture of the students for whom college completion is important. They have gone to school in order to prepare themselves for a career or profession, their parents believe it is important for them to finish school, they plan to transfer, they expect to enter a higher level occupation, and they are more likely to be full-time students. Moreover, they are more likely than are students for whom college completion is not important to come from a background where the mother has a lower status job, they are prone toward compulsive self-organization, they view personal ambitions as a good thing, and they see themselves as smart.

Summary

This chapter has examined some measures of students' achievement, their certainty of achieving their goals, their satisfaction with their colleges, and the importance to them of finishing college. Directly these criteria give us information on the students' academic performance, their assessments of their progress, and the value they place on their colleges in particular and upon college education in general. To the extent that each of these criteria is in part determined by the students' college experiences, perhaps they may also be viewed indirectly as measures of how well their community colleges are doing their jobs of teaching and motivating students. Assuming the above direct and indirect meanings of the criteria, the analyses of this chapter yield results showing which of the other measures best predict these aspects of the community colleges' performance.

Overall, the four sets of equations employed show several types of variables that are related to the measures of student outcomes. Expectedly, the students' past performance, and sociological indices such as age, mother's occupation, and ethnicity are important predictors. The

students' educational objectives or plans and their stated reasons for attending college are another set of effective predictors. Personality factors, reflecting the ego strength and the anxiety of the students are also effective predictors. However, the most significant class of predictors are the student self-perceptions of their academic abilities and their reports of the problems they are having with school.

Perhaps the major conclusion of the analyses of this chapter is that there are a variety of ways of assessing and predicting college performance in terms of student outcomes. That these criteria are closely related to student outcomes is substantiated by equations (not reported here) which show that the students' perception of the importance of completing college and their feelings of certainty that they will achieve their goals are as important as high school grades in predicting college grades. Further, college grades and the importance of college completion to the student are major predictors of the feelings of certainty the students have that they will achieve their academic goals. The students' perceptions of their academic abilities and their academic problems are probably best seen as additional ways of measuring student outcomes, and hence are ways of measuring the performance of the colleges themselves.

There are also some conclusions that should not be made on the basis of these results, that school factors are not important in determining these student outcomes. The very minor importance of school factors is a reflection of the data that are available. The few measures of school, program, and staff differences that are available have little potential for predictive power since they have a common value for all students within a given school, those doing well and those doing poorly.

CHAPTER 5

STUDENT RATINGS, BACKGROUNDS, AND PROGRAM EMPHASES

This chapter will examine the quality of the junior colleges' performance in terms of the students' ratings of several aspects of their institutions' programs. The criteria data for these analyses come from the sample administered Form C of the questionnaire. Tables 4-1 and 4-4 contain a listing of all the variables used in these analyses, with the exception of the omission of estimated grades, the importance of completing college, whether the students were attending their preferred college, and their certainty about their educational objectives, criterion variables that were treated in Chapter 4.

Adequacy of Counseling Information

Table 5-1 shows the discriminant functions derived from the analysis of the two variables in the data which indicate whether or not the students found their counseling information adequate. In the first equation the adequacy of occupational information obtained from the counselor is the criterion variable and in the second equation the adequacy of the academic information is the criterion variable. For each equation the set of possible predictors includes all of the variables listed in Tables 4-1 and 4-4 with the exception of ratings of the school facilities, ratings of the teachers, ratings of the counselors, the two ratings on the adequacies of counselor information, and those few variables noted in the paragraphs above. The similarities of these two equations is obvious.

In each equation the most important variable discriminating between those students who said they received adequate information from those who said they received inadequate information is the variable indicating whether students felt they were helped in their academic planning. In each equation the next most important variable, in terms of the magnitude of the beta weights, is a factor related to problems the students had with academic planning. In respect to occupational information it is the students' indication of their need for help in academic planning, and in respect to academic information it is the factor reflecting whether or not the students sought help with academic planning. Another obvious similarity

between the two equations is the strong predictive power of the variable reflecting the students' statements about their difficulties in obtaining counselor appointments and their statements about the average length of those appointments.

Table 5-2 shows the intercorrelations of the two criteria variables and the variables derived from the factors related to the students' academic planning problems. The data show that while the three academic planning factors are positively correlated with one another as joint predictors, the degree of help received is positively associated with the ratings while the need is negatively related and the seeking of help is negligibly associated. This may indicate that the greater the felt need of the students the less likely they were to be satisfied with their counseling.

Overall these equations show that the students' rating of the adequacies of their counseling information is very directly influenced by their immediate experiences with counseling. The students who indicated that the counseling information was adequate were those who felt they received help in their academic planning, who were less likely to have needed or to have sought such help, who found it less difficult to obtain an appointment with a counselor, and who indicated that their appointments with the counselor tended to be longer. A problem here may be that so few of the students participated in a comprehensive counseling experience, that many of the students may not have had an adequate frame of reference to answer the questions regarding the quality of counseling information. This problem relates to their evaluation of all of the other questions about their counselors and counseling processes as well.

Personnel Services, Counselors, Teachers

Table 5-3 shows three regression equations with the variables reflecting the students' ratings of their schools' student personnel services, instructors, and counselors. Each of these criterion variables is the sum of the series of responses rating the respective services or personnel. A factor analysis of the responses that went into the summated ratings indicate that these data, unlike the data of the other studies of college students, do not show any separate factors within the ratings.

The ratings of the schools' student personnel services and the ratings of the counselors are for the most part dominated by those variables reflecting the students' satisfaction in their contacts with their counseling services. This is to be expected in the ratings of the counselors and services, since these predictors are the major items available indicating the degree of the students' satisfaction with their contacts in the school. However, the ratings of the teachers shown in the second equation give a slightly different picture. Here the variable reflecting the degree to which students see boredom as a problem in their academic progress is by far the dominating predictor of their ratings of teachers, with bored students giving lower ratings.

The importance of the variable indicating that the students felt that they had an academic problem with boredom must be considered separately. Table 5-4 shows two regressions using the variable of student boredom as the criterion variable and using the remainder of the variables as the predictor set. The first equation shows the regression restricted to the set of predictors that are significant at at least the five percent level. This shows that almost 50 percent of the variability in this boredom variable can be predicted from the set of other scores reflecting the students' problems with their academic progress. The bored students indicated that they had a problem with indifference to schooling, their academic ability, being too busy, and being uncertain as to what they wanted to do. The second equation shows this regression continued to include more, though insignificant, predictors in the set. As can be seen these additional variables elaborate the picture, with the bored students expressing characteristics such as appearing to be younger, having had problems in terms of their educational background, and having no clear educational objectives. Added to this is the variable of authoritarianism with the authoritarian student seemingly less likely to be bored, a finding not suggested by much previous research (see Feldman and [illegible], 1969). This would seem to portray students again who perhaps should not be in school; who are bored, indifferent, uncertain of their abilities, uncertain as to what they want to do; and who are too busy in many other activities.

Program Emphasis, Ethnic Background, and Sex

A final phase of the analyses of student ratings attempted to discern the comparative benefits and satisfactions perceived by students in different programs and with different backgrounds in the community colleges. In particular there is the question of whether the students in the two-year or vocational programs differ from the academic program students in terms of degree of satisfaction. Additionally there are the important questions as to what extent the needs of different ethnic groups are being met, and to what extent the needs of the female students are being met compared to those of the male students. The data do not allow the direct measurement of the extent to which the needs of the students are being met. However, the assumption can be made with some justification that the ratings the students gave their teachers, their counselors, and the schools themselves to some extent are indicative of the degree to which they were satisfied, and hence may be partial indicators of the extent to which their needs were being fulfilled.

Three sets of discriminant functions were examined, on the basis of this assumption. In the first set the variable, ETHNIC BACKGROUND (Caucasians versus all minority students), was the criterion variable, with minority students categorized by a 0 and majority by a 1. In the second set sex was the criterion variable with a 1 indicating male, and a 2 indicating female. In the third set the students' current majors were dichotomized with the transfer majors represented by an index of 1 and the vocational majors represented by an index of 2. For each of these criteria the set of potential predictors was limited to the 15 factor scores reflecting the students' need for counseling, the problem areas for which they sought counseling, the problem areas with which they received counseling help, the ratings of their colleges' facilities, the instructors and the counselors, and the two ratings of the adequacies of their counseling information.

Two discriminant functions were examined for each of the criterion variables. In the first discriminant function the five scores reflecting students' perceptions of their need for counseling were forced in the first steps of the equations, with the remaining variables introduced in subsequent steps. In the second analysis of each of the criterion variables the set of predictors were allowed to enter the equation in terms of their

importance as discriminators. The first of these two types of discriminant functions was examined with the belief that if the two criterion categories of students had different needs, these needs would affect their ratings of the teachers and institutions. As indicated above, the perceived needs of the student do in fact to a significant degree affect their ratings of such aspects of their colleges as their counselors and teachers. However, for these analyses the two types of discriminant functions showed no significant differences.

Table 5-5 shows the discriminant function calculated using ethnic background as a criterion variable in the first equation and using the students' current majors as a criterion variable in the second equation. The function using sex as a criterion variable showed no meaningful results, with less than one percent of the variation accounted for. While the two discriminant functions account for only a small amount of the variation in the criterion variables--eight percent in the first instance and seven percent in the second--these equations are highly significant and in each instance the two discriminators are significant well beyond the one percent level and hence should be relatively stable.

In the first equation the minority students are differentiated from the majority students in that they felt that they had more of a problem in terms of finances, while simultaneously feeling that they received less help with this problem. This is of particular interest, given that the analysis of the marginal data reported in Volume II shows that those students in colleges with larger minority enrollments were getting proportionately larger amounts of financial aid. Whether these two results are contradictory or not, this discriminant function does show that the minority students felt they needed more financial help but were getting less compared to the perceptions of the majority students.

In the second equation in Table 5-5 the dichotomized variable representing the students' current major is the criterion. The principal factors differentiating the students in vocational programs from those in academic or transfer programs is that the students in the vocational programs felt less need for help in planning their educational careers and less need for help in planning their selection of classes and instructors, but felt a greater need for counseling concerning such problems as academic difficulties

and poorer grades. An additional aspect of this discriminant function is that the ratings of the teachers, the counselors, and the schools themselves do not enter as significant discriminators. Anticipations were that the students in the vocational or two-year programs might express less satisfaction with their vocational and perhaps their academic counseling. Not only are these variables missing from these equations but the equation shows that the students in the vocational programs indicated less of a felt need for counseling help both in selecting classes and in planning their full programs.

Summary

The principal finding of this chapter is the result showing that the ratings of the counselors and the student personnel services are largely based upon the contacts the students have with these services, while the ratings of the instructors is largely predicted by the students' perceptions of their own directions and progress. Since the students' goals and progress is often thought to be aided by good advice and counseling, indications are that the students' satisfactions can be greatly increased by better services to them The need for counseling is highlighted by factors reflecting boredom, indifference, and confusion on the part of students.

Another important result of these analyses is a problem that could not be fully examined in this preliminary effort. This is reflected in the fact that while the need, the seeking, and the getting of help in academic planning are positively associated with one another and with the ratings of the counseling services, one of these variables has negative weightings and one has a positive weighting as joint predictors of the counseling ratings. This may reflect that those students that most need help are getting the least. A detailed analysis will be required to get at the structure of these relationships.

CHAPTER 6

FRESHMAN - SOPHOMORE DIFFERENCES AS ESTIMATES OF PERSISTENCE

Emphasis is given those variables that distinguish the sophomores from the freshmen in the concluding phase of the volume's data analyses, and secondarily to those many students who displayed inconsistencies between their educational status and goals. The main intent of the analysis was to determine estimates of variables that will predict students' persistence in college, or, conversely, their withdrawal without completing a two-year program. The nature of this exploratory study, however, inherently resulted in the imposition of great limitations on the efforts to delineate factors underlying student attrition.

A commonly known fact in much of behavioral data analysis is that at best only indirect indicators are available of the kinds of variables needed to be measured or understood. In the present attempt to get at some of the factors that may be related to students' attrition the problem is much more difficult, primarily because there are no obvious variables in the data that can serve as a criterion indicating whether or not the student will withdraw from college. However, because of the importance of the question of the student attrition (see Chapter 5 of Volume I), a major effort was made to explore the problem as far as was feasible given the constraints of the project.

The procedures used in the following analyses involved a number of assumptions and, in addition, are somewhat unorthodox. Indeed, one of the techniques was developed in the process of the analyses. Moreover, a number of factors make the results of the analyses relatively difficult to interpret. Further, since some of these analyses required the extraction of relatively small sub-samples of the data, and since some of them have not been used before, the reliability of the resultant statistics may be low, a possibility that needs testing. Despite these reservations the analyses did produce results which may be useful as a base for a more detailed study of the data.

The basic assumption of the analysis that follows is that community colleges generally, including the institutions which participated in this study, do have a serious problem of student attrition. A further assumption is that some of the students surveyed who were classified as freshmen

will not remain through their sophomore year. Another assumption is that the students classified as sophomores would have resembled the freshmen on key characteristics had the questionnaires been given a year earlier. If this set of highly plausible assumptions can be made, and if there are some factors which are related to the propensity to withdraw, then at least part of the differences between the freshmen and the sophomores should be due to these factors.

Of course, there are a myriad of factors which can account for the differences of the characteristics between the freshmen and the sophomores. Some of the students classified as freshmen may be pursuing courses or programs that require only one year of study. Grades, age, and many other known situational factors are likely to explain many differences between the freshmen and the sophomores. However, if we are able to control some of these known factors then the differences between the freshmen and the sophomores may be more likely to reflect differences due to factors intrinsically related to withdrawal from college. They may also in part reflect changes in the students that resulted from their college experience, another very important matter. Moreover, as the number of "contaminating" factors controlled for is increased, the more likely are any systematic differences observed between freshmen and sophomores to be indicators of factors related to the attrition problem or changes among students. This is the logic underlying the analyses that follow. Most of the analyses involved the computation of discriminate functions differentiating freshmen from sophomores, with different factors and different numbers of factors controlled for.

Controls for Transfer Status and Career Objectives

For purposes of the analyses, students with less than 30 units were classified as freshmen; the students with a minimum of 30 units were classified as sophomores. In the first set of these analyses three new two-level categorical variables were developed for the three samples that responded to the three different survey forms. The first of these variables eliminated all of those students who indicated that they were in vocational or two-year programs. This variable, designated as Freshman-

Sophomore TRANSFER MAJOR, pertains to all of those students who indicate they had a transfer major, with freshmen having a variable value of 0 and sophomores a variable value of 1. The second of these variables called here Freshman-Sophomore TRANSFER OBJECTIVE, dichotomized freshmen and sophomores in that group of students who indicated that their educational objective was to transfer from their present college. The third variable, Freshman-Sophomore CAREERS, distinguished freshmen and sophomores in that group of students who indicated that their expected occupation would be one of the professions requiring at least a baccalaureate degree. These three variables constituted important controls since those students classified in other majors, in terms of other expected jobs, and other anticipated educational objectives, could very well be pursuing programs that would not involve more than one year of college work. On the other hand those students indicating that they were in transfer majors, that they planned to transfer, or who expected to have professional careers should reasonably be expected to complete a second year of college. (There is, of course, great overlap among these groups of students.)

Table 6-1 shows the discriminant functions calculated using as criterion variables the three transfer groups and the common and Form A variables as the "predictors." Two results are immediately obvious, both of which were expected. First the very small amount of variance accounted for by each of these equations was anticipated, since the entire sample was used for the analyses of function discriminating between the freshmen and sophomores, and therefore accounted for only five percent of the variability. On the average these equations account for almost twice as much of the variability of the three categorical variables. Another result that was anticipated was that the variable AGE would enter into these equations, for if all other things were held equal, one would expect the sophomores to be older than the freshmen. One other common predictor in the three equations is the variable WORK-LOW GRADES. This variable was derived from factoring the question which asked the students what problems they anticipated might result from having to work; it indicates that the students felt that working would cause them to have low grades or possibility to fail their courses. Apart from age then, these equations seem to show that the sopho-

mores differed from the freshmen in that they felt that having to work was likely to cause them to suffer from lower grades or failure of courses. The first equation in Table 6-1 shows an additional factor discriminating the two groups: the degree of certainty that the students had about attaining their educational goals, with the sophomores being more certain. The third equation shows that, when controlling for level of career expectations, the sophomores were more likely to indicate that they were being supported with educational loans than were the freshmen.

Table 6-2 shows two of the discriminant functions calculated on these same variables for the sample of students who were administered Form B of the questionnaires. The equation calculated on the categorized variable controlling for the expected career was not included since the equation yielded no significant discriminations. Again the small amount of variance accounted for in the equations is obvious. Also age is not significant in the first equation. However, the first equations do show that, when controlling for major, the sophomores indicated that they were more certain of achieving their educational goals than were the freshmen. In addition, the sophomores were less likely to agree with the expressions of personal ambition as indicated in the first equation and they were less likely to agree with the expressions of social ambition as indicated in the second equation. Again these two equations are not totally independent of each other, since both of them represent discriminant functions differentiating between freshmen and sophomores for overlapping subsamples; approximately 70 percent of the students are common to the two subsamples.

Table 6-3 shows the discriminant functions calculated on the three categorized variables for the samples of students that responded to Form C of the questionnaire. The first two equations, while accounting for very little variability, show that the factors of age, sex, and ethnic identification do distinguish the sophomores from the freshmen in the three sub-samples. These are all variables that would be anticipated to show up, and in ideal circumstances would be controlled from themselves. The variable ACADEMIC INFORMATION in the first equation reflects the fact that the sophomores in this particular sub-sample are more likely to be from schools that have a heavy emphasis on academic programs. The best discrimination is seen in the third

equation which, in addition to the ethnic factor, indicates that the sophomores were more likely to have considered themselves as mathematically-mechanically oriented and more likely to have rated their academic counseling information as inadequate compared to the freshmen. Neither age or sex are significant in the third equation, although it accounts for approximately 10 percent of the variance.

The results shown in Tables 6-1 through 6-3 provide a variety of predictors of sophomore status, though relatively weak ones. No predictors are common to these three sets of equations with the exception of age, which is to be expected of differences between freshmen and sophomores. Of course, variables unique to the different forms could appear in only one set of the analyses. However, in Table 6-1, the variable reflecting the students' concern that working would cause them to have lower grades is common to the three equations. It is not clear how this variable would be related, if it is related, to any basic propensity to drop out of school. This result may simply be the product of the similarity of the sub-samples. The two equations shown in Table 6-3 have in common the fact that in each instance the sophomores indicate that they regard less highly the issues surrounding the expression of ambitions. These results would seem almost the opposite of what might be expected, that the students who persist in college would show more of an inclination toward ambition. Overall, then, the results shown in these three tables are not easy to interpret.

Control for College Grades

The next step in the sequence of analyses involved adding a second level of control to the criteria used in the discriminant functions. The variable of college grades was selected as one of the second controlled variables. The rationale was that students with transfer majors who had low grades as a freshmen were more likely to drop out of college than higher achieving students. If such students were to persist on through a second or sophomore year, this persistence may be an indication that they shared some characteristics fundamental to students who continue in college. Consequently freshmen and sophomores both of whom had transfer majors and low grades (a maximum grade average of D) were distinguished for separate

analysis. The students in the two classes with high grades (with a minimum grade average of B) were also analyzed for comparative purposes.

Table 6-4 shows the discriminant functions calculated using the criteria variable Freshmen-Sophomore LOW GRADES, for each of the three samples that responded to the three forms of the survey. Here not only is there a greater proportion of variance accounted for than in the equations in Tables 6-1 to 6-3, but variables other than the more obvious ones such as sex and age entered the three equations. In the first equation greater support from the G.I. Bill followed by greater age distinguished the sophomores from the freshmen. Less compulsion for organization and a higher occupational status of the students' mothers did not quite reach a level of statistical significance in the discriminant functions but did appear to be potential predictors of sophomore status. In the second equation the sophomores indicated that they benefitted less from high school business courses and also that they spent more time in extra-curricular activities compared to the freshmen. In the third equation, in addition to the fact that the sophomores were more likely to be male, they were also more likely to have stressed a liberal education over job skills as one of their reasons for attending college. This equation also shows that the sophomores were more likely to be working more hours a week than the freshmen but, simultaneously, that being busy was less of a problem for them. Overall, then, the three equations show that for this group of students who had a transfer major and low grades, the sophomores tended to be busier than the freshmen, to be working more hours, to be involved in more extra-curricular activities, but less likely to indicate that these activities caused a problem for them. In addition, the sophomores were more likely than the freshmen to be receiving money from the G.I. Bill and more concerned about obtaining a liberal education.

Table 6-5 shows the variables that distinguished the sophomores from the freshmen among high achieving students. Since these analyses were confined to samples of students who could be considered to be succeeding in their college work in terms of grades, expectations were that the discriminant functions would show less differentiation between the freshmen and the sophomores. These expectations were borne out in

the case of the second two equations, but the first equation shows a better discrimination than those where Form A variables were examined in reference to students with low grades. Still, age again and the students' certainty about achieving their educational goals are primary characteristics distinguishing the sophomores with high grades from their freshman counterparts. In addition, mothers' organizational involvements and the factorial scale of fathers' intellectual interests entered the first equation.

Table 6-6 shows two equations computed on the sample of students who responded to Form C of the questionnaire. The first equation pertains to the freshmen and sophomores with a transfer major who reported having problems while in college; the second equation deals with their counterparts who did not report these problems. The students having problems were operationally defined as those who indicated in response to item 33 of Form C that they either had one or more personal problems for which they needed help or had two or more problems about their grades with which they needed help.

As anticipated, the first equation shows a more efficient discrimination than do the equations in Tables 6-1 through 6-3 which relied upon only one level of control. The large difference in discriminating power between the first and second equations in Table 6-6 is consistent with the expectations brought to these analyses. The fact that the only significant discriminators between the freshmen and sophomores who have no problems are demographic-type variables is also consistent with these expectations.

In addition to being older, according to the first equation, the sophomores who reported problems were more likely to have mothers who were active in organizational affairs, more likely to have indicated that the occupational information was inadequate in their schools, and more likely to have favorably rated their counselors. The socioeconomic characteristics of their colleges also appeared to be a potential predictor of these students, as did concern with academic development for the students reportedly without problems. However, two other second level controls were defined in terms of the students' vocabulary scores and their reporting having financial problems. The results of these latter two analyses were not significant and therefore were not included in this report.

It would have been desirable to continue this sequence of discriminant functions with criteria defined in terms of still further levels of controlling variables. However, since this procedure involves taking continually smaller sub-samples, it was not feasible. Less than 70 cases were available for the analysis which produced the first equation in Table 6-6.

Freshman-Sophomore Differences Under Multi-Level Controls

In order to examine the possibility of whether further control would yield more information about factors that might be related to the issues of student attrition and change, another technique was developed for this chapter's analyses. Appendix B includes a full description of the technique, the programs, and indices derived from it, and the logic underlying its procedures. Briefly, the logic of this technique is the same as that used in the earlier analyses of this chapter. Presumably, some of the differences between the freshmen and sophomores may reflect factors related to the drop-out question. And further, if the freshmen and sophomores are matched on certain known differences, then the differences remaining between them may be more likely to be related to the drop-out or change issues. Through the present procedure, examination can be made of sets of variables that may potentially be related to student attrition to see if they in fact show this characteristic of increased sensitivity as more levels of control are used.

The technique begins by controlling for two variables, A and B, when examining the freshman-sophomore differences. Then for each independent variable four differences can be computed. There are the differences between the freshman and sophomore scores for the total sample, the differences between freshman and sophomore scores controlling for variable A alone, the differences between the scores when controlling for variable B, and finally the differences between freshman and sophomore scores when controlling for variables A and B jointly. Given these four differences and the logic which argues that increased control will highlight any intrinsic differences between freshman and sophomore scores, then there

is a pattern or order to be expected in these four mean differences.

The differences between the freshman and sophomore means for the total uncontrolled sample should be less than the differences between the freshman and sophomore means for the sample when controlling for variable A. Likewise, the difference between freshman and sophomore scores for the whole sample should be less than the difference between the same two scores when controlling for variable B alone, and finally the differences in the total sample should be less than the differences resulting from controlling for variables A and B jointly. In a similar way, the difference found when controlling for the variables individually should be less than the difference found when controlling for the variables jointly.

In the analyses that follow, four factors were controlled for, which made it possible to calculate 65 differences that could be predicted for any variable which was in fact a "true" indicator of the difference between the freshmen and sophomores. Only four factors were chosen for "matching" because sufficiently strong assumptions could not be made for more than four factors at a time. In addition, the number of observations available also played a part in limiting the analyses to four controlling factors. The four factors chosen were the ethnic identification of the students, their grades, their expected occupations, and the importance to them of completing college. For the two analyses presented here the students were matched so that the freshman-sophomore differences could be observed for that sub-sample of students all of whom had low grades, planned to have careers in the professions, who indicated that it was important for them to finish college and who were in the same ethnic group. In one of the analyses all of the students had identified themselves as white, and in the other analysis all the students identified themselves as primarily Black or Mexican-American. Table 6-7 contains the results of the analysis of the students matched for low grades, plans to enter professional careers, importance that they finish college, and white ethnic status. The table gives some of the information yielded by the analysis for seven of the nine variables that had the largest index values.

The first of these variables, OBJECTIVE-COURSES, a "dummy" variable, was introduced, indicating that the students reported their objective was to take a few courses to develop some training or skills. (As indicated in Appendix B, the dummy variables are the result of coding procedures enabling one to use categorical data in regression calculations.) The results show for the whole sample the freshman mean of OBJECTIVE-COURSES was 0.266 and the sophomore mean was 0.153. This finding means that slightly more than 23 percent of the freshmen selected this educational objective and slightly more than 15 percent of the sophomores selected it when considering the whole sample.

The results further show for the sub-sample of students who were white, had low grades, had aspirations to assume professional careers, and considered it important that they finish college that 5.7 percent of the freshmen had selected this educational objective and 12 percent of the sophomores had selected it. Thus, in the total sample the freshmen were somewhat more likely to subscribe to this educational objective than were the sophomores. But when controlling for the four "contaminating" variables used in this analysis, the percentage of sophomores selecting the objective is more than twice as high as the percentage of freshmen. The index value of 65 means that all of the possible comparisons of differences between freshman and sophomore means were in the same direction. (Appendix B contains details on procedures for estimating the sampling variability of these indices and an indication of their significance.) For the total sample the percentage of freshmen choosing this educational objective was 11 percent higher than the percentage of sophomores. When controlling for grades alone, the percentage for the freshmen was only 7.4 percent higher than the percentage for the sophomores.

When the sample was controlled for race, that is, when the sub-sample analyzed consisted exclusively of white students, the percentage of freshmen choosing specific courses offered as their educational objective was 10.4 percent higher than the percentage of sophomores. When controlling for both grades and ethnicity, the percentage of freshmen choosing this

educational objective was only 5.2 percent higher than the percentage of sophomores.

An extrapolation from the data in Table 6-7 suggests that if a sufficient number of factors were controlled for none of the freshmen in the controlled sub-sample would have chosen OBJECTIVE-COURSES while a significant percentage of the sophomores would have chosen it. This observation suggests that the choice of this educational objective is a positive indicator that the students may remain for a second year.

The results for the OBJECTIVE-AA has an index value of 64, indicating that of the 65 possible comparisons of the freshman-sophomore differences that only one was not in the direction predicted for a factor that would be associated with the "true" differences between freshmen and sophomores. For the total sample approximately the same percentages of freshmen and sophomores chose an associate degree as their objective. But for the fully controlled sub-sample (the sub-sample that was white, had low grades, had high career aspirations, and for whom it was important to finish college) approximately 12 percent of the freshmen indicated that they planned to get an associate of arts degree compared to less than 1 percent of the sophomores. These results suggest that it is relatively unlikely for a white student with low grades, high career aspirations and for whom it is important to complete college to be a sophomore and to indicate that he plans to get an associate degree. Once again, this juxtaposition of low grades and high aspirations may be a reflection of unrealistic thinking on the part of some students.

In essence, then, this pattern is to be expected, for an Associate of Arts degree is hardly an adequate preparation for a professional career. This is not to say that the expression of the desire for an A.A. degree causes these students to drop out. No doubt many of the students expressing this choice as freshmen either change their educational objectives or their career plans by the time they have reached sophomore standing. Regardless, the data indicate that the choice of this objective for many students may be an important indicator of their need for early and intensive counseling.

The next in order of the magnitude of its index is the variable reflecting the second of the reasons the students indicated for attending college, the bi-polar factor of enjoyment versus career aspirations. For

this variable 59 of the 65 comparisons were in the predicted direction, a clearly significant result. The sophomores were slightly more likely to have indicated that their reason for entering college was in order to enter a career or profession than were the freshmen, while upon introducing the full controls the freshmen were more likely to have indicated these career aspirations as a reason for entering college. Although statistically significant, these results are not as clear as those just observed regarding the attainment of an associate degree as an educational objective. The implications in the present instance are either that the less practically oriented freshmen tend to drop out or change their view of their purposes for education.

The variable INTROSPECTIVE, reflecting the factor score of the students' self-perception of themselves, shows a very different kind of result than any of those observed previously. For the fully controlled and total samples there are slight differences in the mean INTROSPECTIVE scores with the sophomore scores being slightly higher. However, for the fully controlled sub-sample this difference all but disappears. These results apparently indicate that introspectiveness is associated with the control variables only and independent of any basic factors of attrition. Except for the results associated with the variable labeled, REASON-NONE, the remainder of the results shown in Table 6-7 are directly interpretable. The results, "REASON-NONE" with an index value of 55, seem quite surprising. They indicate that while the freshmen and sophomores were about equally likely in the total sample to have said they had no good reasons for attending college, in the fully controlled sub-samples, evidently the sophomores were much more likely to have said this. This clearly does not seem to be the kind of factor ordinarily associated with persisting in college. The results may reflect error or may reflect the presence of an interaction not taken into account in this analysis.

Table 6-8 shows the results of the same type of multi-control analyses as those just discussed, but in the present case with the additional control selecting for minority students. In this analysis the variable with the largest index indicates that the students' mothers were actively engaged in organizational and community affairs. In the total sample the freshmen and

sophomores had approximately the same mean scores on this variable while in the fully controlled sample the freshmen obtained scores twice as high as the sophomores. This result would suggest that for Black students, when taking into account the other control characteristics introduced, and whose mothers were actively engaged in organizational activities were less likely to persist beyond their freshman year. This same variable was a significant indicator in the first equations of Table 6-5 and 6-6. This finding appears to contradict the research indicating that, at least for the minority students themselves, those who are most active in organizations are more likely to achieve and persist more in college than their less active peers. Another fact that may be noted is that this variable does not appear among the list of important variables for the white students shown in Table 6-7.

Another variable, shown in Table 6-8, which appears to be strongly related to the differences between freshmen and sophomores for this group of students is the variable labeled REASON-LIB.ED. versus SKILL. This is the bi-polar factor obtained from the students' list of reasons for attending college, with the desire to obtain specific job skills on the negative end of the scale and a desire to obtain a liberal education on the positive end of the scale. As can be seen in the total sample the freshmen were more likely than the sophomores to have indicated that they entered college to obtain specific skills. However, when the students were matched for grades, the importance college had for them, high job aspirations, and minority status, the sophomores were more likely to have indicated that they entered school in order to obtain a liberal education. The index value of 63 for this variable means that only two of the possible comparisons of mean differences between freshmen and sophomores were not in the expected direction. This variable does not appear in the list of variables with high indices in Table 6-7 for the white students. In fact, in the analysis for the "majority" students this reason factor shows no consistent pattern at all which may indicate that there are major differences between the majority and the minority students in terms of the factors related to the student attrition or change.

Only two of the variables shown in Table 6-8 to be important indicators are common to the set in Table 6-7, OBJECTIVE-AA and NON-COMPLEXITY. The results for the educational objective to obtain an associate of arts degree, shown in Table 6-8 looks much like the results seen in Table 6-7. While in

the total sample the freshmen and sophomores seem equally likely to have chosen this objective, in the fully matched group, five percent of the freshmen chose this objective but none of the sophomores. As cited in the analysis of the white group, Table 6-7, those students who specified that they were planning a career in the professions and also indicated that they planned to obtain an associate degree apparently were confused in their overall planning. For both the majority and minority students the results for the variable NON-COMPLEXITY seem quite similar.

The analysis results which have been shown in Tables 6-2 through 6-8 have been directed toward finding variables which may be related to the factors of student attrition in the community college. Once again, these results must be interpreted with considerable caution. This is true first, because all of the results are dependent upon the assumptions that matching can or should reveal factors "truly" related to student attrition. While this is a plausible assumption, many other factors can contribute to the kinds of differences found here. Secondly, it is only an assumption that the characteristics of the students classified as sophomores in these samples would have been similar to the characteristics of the students here classified as freshmen had the questionnaire been given a year earlier. Another strong caution must also be made in reference to the results shown in Table 6-7 and 6-8. This procedure was developed specifically for the analysis of these data. There is no experience by which to judge the stability, reliability and interreliability of these specific results.

However, once accepting all of these assumptions and reservations, the results in Tables 6-1 through 6-8 do yield indications of variables that may be important in understanding the problems of student attrition in community colleges. They also suggest changes in the students' perceptions and values occurring after two years in a junior college. In order to understand more about the unique dynamics of student persistence and change using the present methodology, examination should be made of a number of variables in addition to those in Tables 6-7 and 6-8, such as those related to the students' sources of support while in school, the amount of time they work, the extent to which they find working and extra-curricular activities cause them problems, and variables reflecting students' perceptions of their academic difficulties.

Consistency of Student Goals

The final phase of the analyses in this study is part related to the above analyses of the problems of student attrition and change, as well as to the problem of the seeming inconsistency in the students' specifications of their educational objectives, career ambitions and their major--which may also be related to attrition. For this analysis another dichotomized variable was developed. This variable was defined only for that group of students who indicated that they planned a professional career. The students with professional plans were divided into two new exclusive sub-groups. The first group, assigned a variable value of 1, included those students who indicated that they were in transfer majors and also indicated that their educational objectives included transferring after their community college work. The second group, assigned a variable value of 0, included those students who either indicated they did not plan to transfer or that they were in a two-year or vocational program. Thus the group with a variable value of 1, would seem to be consistent in their selection of careers, educational objectives and majors, while the group with a variable value of 0 would seem to be inconsistent regarding these matters.

Table 6-9 shows the discriminant functions calculated separately on the samples of students who responded to the three forms of the survey with the variable CONSISTENT as the criterion variable and the remaining variables used as predictors. A few variables from the faculty survey were also included in the analyses. Only one common variable included in all survey forms was found to be a significant predictor in all three of the discriminant analyses. The students with consistent goals were more likely than the inconsistent students to be registered in credit courses. Three other common variables are seen in two of the equations. These show that the consistent students compared to the others were more likely to be younger, to have indicated that one of the reasons they entered college was to attain a liberal education, and to be in a college where the faculty placed high priority on students' academic development (the latter of which was one of the few variables introduced from the faculty survey). An additional variable appears in two of the equations, level of mothers' occupations. This variable has a highly significant positive weighting in the third equation while it has a

highly significant negative weighting in the second. To this point the investigators can find no reason to explain this contrast other than the difference in variables available as discriminators for these two equations.

Interpreted as discriminants of those students who were inconsistent, the three equations show that the inconsistent students were more likely to be taking noncredit courses, more likely to be older, less likely to desire liberal education, less likely to be attending colleges where the faculty considered personal and social development as an important student benefit, more likely to be working for reasons other than to support their education, and to be less certain of achieving their educational goals. The inconsistent students were also more likely to be obtaining a larger percentage of their support from their spouses, to have had fathers at lower occupational levels, to be more likely to have indicated that they chose their school for specific courses offered and to have attended colleges of relatively high socioeconomic status. Further the students who were inconsistent in their goals were more likely than the consistent students to have indicated that they found making appointments with their counselors difficult, to have felt that they had a problem with indifference toward their education but--paradoxically--less likely to have indicated that they were bored with school.

Although the findings generally evince reasonable predictors of the inconsistent students, there were a few apparent inconsistencies in the data, perhaps because of the inconsistent students. The inconsistent students did not appear to be as bored as the consistent students yet they had problems with indifference toward schooling and indicated that they were more confident than about achieving their educational goals. Given the moderately high amount of variance accounted for, approximately 26 percent, the results strongly suggest that there are real and basic differences between these two groups of students.

While there is no definitive pattern to this set of factors that discriminate the students inconsistent in their goals from the students that are consistent, the set of significant discriminators found in these three equations are to a large measure common to the set of significant predictors and discriminators seen in the preceding analyses. Singly and together they point out the possibility of attaining a series of diagnostic and evaluative

tools important to student and institutional educational development. Indeed, the problem of consistency in the students' expression of their goals and their means of obtaining these goals are likely to be related to not only the problem of student attrition, but also related to the other problems examined in these analyses, such as issues of how well the students perform, how capable they are of changing in positive directions, how certain they are about these directions, as well as how they evaluate their colleges' facilities and staff, and what these issues mean to them personally and professionally.

CHAPTER 7

SUMMARY OVERVIEW

This final chapter presents an overview of the findings, a summary, a drawing together, but does not present conclusions as such. This must be emphasized because the exploratory and limited nature of these analyses does not warrant statements that can properly be said to fully describe these data. As emphasized in the first chapter of this volume, these analyses have sought to discover some of major associations between some principal dependent or criteria characteristics and the other variables of the data.

Before presenting this overview the steps of these analyses will be reviewed briefly. This review will make mention of some of the factors which limit the confidence or reliability that should be placed on these preliminary analyses.

Procedures of the Analyses

This analysis began with the data as it was used in the frequency distribution and cross tabulations reported on in Volume II. The first steps involved the development of sets of indices, scales, and factors from the original data. Some of the data represented sets of items that were included in the anticipation that they would be summarized as factors or scales. Item 30 in which the students indicated their personal preferences and characteristics was such a set of responses. Logic and previous evidence was the basis for a number of other item summaries. Parsimony also was a major impetus for this data reduction, for the three student questionnaire forms contained a total of more than 900 variables, more than 500 of which were different.

The next step in the analysis procedures involved an examination of several scores of regression equations. These first sets of equations were examined for the presence of major relationships that might exist in these data. The purpose of these examinations was to see if there were relation-

ships of a magnitude or character which might serve as a focus for formulating the nature of subsequent analyses. In the absence of clearly formulated hypotheses or structure questions to shape the analyses, this strictly empirical approach was chosen as the first step in order not to miss any relationships that might not have been anticipated. These analyses showed no unusually strong patterns in the data that would be revealed by a simple linear regression model. These analyses also showed the strength of the relationships among the variables to be weak in general and moderate at best.

The next phase involved detailing the steps of the final analysis for this part of the project. This consisted of defining a specific set of questions which were implicit in the ideas of the overall aim of the project and which were feasible given the general characteristics of the data as seen in the preliminary analyses. The organizing concept focusing the final analyses was the goal of identifying which variables would be important for any new and/or continuing analyses of the community colleges. Within this framework four related sets of questions were investigated.

The first of these sets of questions centered about what might be defined loosely as the product of the community college. This involved consideration of the types of careers for which the students are being prepared, the types of majors the students are enrolled in, and a consideration of several other program distinctions, specifically transfer versus terminal programs, full-time versus part-time programs, and day versus night programs. Even though these considerations are spoken of as what the schools are doing, what was measured and analyzed was the student responses to the questions about their planned careers, their educational objectives, etc.

The other three sets of questions which served as the structure for the analysis represent three ways of viewing the effectiveness or quality of the product of community colleges as major dependent or criterion variables. The first of these sets of questions on school effectiveness examined variables related to some degree to student outcomes. Dependent or criterion variables used in this section of the analysis included the student's college grades, the importance to the student of completing

college, the student's perceived certainty of obtaining his educational goals, and finally a measure of whether the student's present college represents his first choice as an education institution.

The second set of questions about the effectiveness of the community colleges was operationally defined in terms of a set of criterion variables which reflected the ratings available in the data on several aspects of the colleges. The criteria include ratings by the students on several aspects of the schools counseling programs, on the academic information, and on the vocational information available through the counseling programs and ratings by the students on the school counselors themselves. The student ratings of the colleges' instructional staff and of the colleges' student personnel services also were included in these analyses. Within this section of the analysis an examination was made of the differentials in rating for several major classifications of students, including transfer versus vocational majors and minority versus majority students. The details of these analyses were reported on in Chapter 5.

The final section of the analysis indirectly attempts to get at the issues of quality of the college programs by an analysis that might isolate factors related to student attrition. By examining differences between the sophomore and freshman students with the students matched on differing characteristics these analyses sought to find variables which may be associated with dropping out. The cautions that must be kept in mind in interpreting the findings of the entire study must be re-emphasized for this analysis of factors related to attrition. The purely exploratory nature of these results is most glaringly obvious here, and for that reason the limitations of the entire analysis are more apparent. There are many rival hypotheses that may explain the particular findings; hence, these results are at best indications.

Overview of the Results

Reasons and Importance of College

Given the variables and classification that were used as criteria in

these analyses several constellations of predictors are shown to have significant associations across the differing sets of dependent or criteria measures. The variables or factors developed from the students' responses as to their reasons for attending college were the major such set of independent variables. The five factors derived from the responses along with other derived scores are described in detail in Chapter 3 above. Three of these factor type scores are prominent in the results, the two bi-polar factors reflecting liberal education versus skills and enjoyment versus career orientation and a third reason factor reflecting no positive reasons for attending college.

The strength of the reason factors as predictors and discriminators of career choices, educational objectives, and program concentration or major was to be expected. However, the direction of the joint relationship of these factors is of interest. The results show that students planning to enter the professions are distinguished from the other students in that they indicate they seek a liberal education but not job skills and simultaneously indicate as a reason the desire to prepare for a job or career and not an interest in taking courses for enjoyment. This same combination of factors from the reason variables distinguish the students who say they plan to transfer after their community college work and distinguishes the students in the transfer majors. These criteria of career choice, objective, and major are closely related, of course. But it remains an item of interest that those who plan to go further in education consider the desire for a liberal education highly but do not tend to give the enjoyment of education as a reason. It might be conjectured that the students in this sample interpret the term "liberal education" in a manner distinctly different from the more traditional way which emphasizes knowledge for the sake of personal development.

This same relationship is seen in the association of the reason factors in distinguishing those to whom it is very important that they finish college in contrast to those to whom it is of lesser importance. The students who are oriented toward going to school as preparation for a career and not those who have as a reason enjoyment feel that it is very important that they finish college. However, the students' reasons for college and their careers

and their objectives are not related to the grades the students achieve or their certainty about achieving their goals.

The importance to the student of finishing college is a major discriminator between students with different career choices, different objectives, and different majors as reclassified but is not related strongly to any of the other criteria. The importance of college to the students' parents is strongly related only to the importance to the student himself.

Aptitude and Past Academic Performance

The variables in these data representing some of the traditional indicators of academic aptitude, grades, and vocabulary scores are related to career choices and educational objectives but surprisingly are not as strongly related to whether the students are in a transfer as against a two-year major. High school grades are important in predicting the self-reported college grades in these data but again surprisingly not as important as might be anticipated. In two of three samples of students other variables yield higher standardized coefficients, student age in one sample and in another sample variables reflecting the student's self-perceptions of his academic strengths and weaknesses.

Background Variables

The background factors examined show a moderate degree of association with the criteria. The sex of the student is related weakly to choices of career and educational objective but in conflicting ways, with the females more likely to be planning higher level jobs but less likely to have the objective of transferring after their community college work. This is an inconsistency. Age is more strongly related to these career choices with the younger student having plans for more education. Age is a major factor differentiating the day from the night student and the full-time from the part-time student.

Of the background variables related to social class of the student, the level of the mother's occupation is the only variable showing more than

a token predictability The higher the level of the mother's occupation, the better the student's grades, the greater his certainty of achieving his goals, and the more likely he is to be planning more education. However, the level of the mother's occupation is inversely related to the importance the student places on completing college. The level of the occupation of the student's mother is also a minor predictor of student grades and a minor discriminator of the degree of certainty the student has about achieving his educational goals.

The occupational level of the mother is also a discriminator in the analysis which examined the differences between the students with consistent goals, objectives, and majors and the students with inconsistent goals and objectives. However, on the level of the present analysis the results are inconsistent. In one sample of students the mother's job level is positively associated with consistency of the student's stated goals and objectives, while in another sample the association is negative. The data strongly suggest that these results are a product of interactions among the predictors and that this seeming inconsistency is itself an important result.

A major finding for the background variables is the small contribution that ethnicity makes as an independent variable in these analyses. In one of the three samples in which college grades was used as a criterion ethnicity was a significant predictor with majority group membership predicting higher grades. In two of the more than ten analyses attempting to get at factors related to student attrition majority group status showed a very low association with persistence in school. Apart from these results majority status was not a factor as a predictor in these results.

Personality and Personal Assessment of Abilities

While not dominating any of the analyses, the variables, scales, and scores that represent personality type characteristics are significant predictors in many of them. These include measures of ego strength, ambition, openness, anxiety, introspectiveness, and scientific orientation. Related to this set of variables is the student's assessment of his own potential. In particular the score on the variable reflecting the student's rating of

his own academic skills is a major predictor to the student's college grades and a significant discriminator between those students for whom it is very important that they finish college and those students for whom college completion is of lesser importance.

Problems and Student's Need for Help

Closely related to the variables indicating the students' ratings of their abilities are the variables in these data in which the students specify the problems they have with schooling and the problems for which they feel they need and/or for which they have sought help. Together with the student's assessment of his academic skills, the student's indication of his need for academic help and his indication of the severity of the problem he has with difficult academic work are the major factors predicting his college grades. This statement, of course, applies only to the sample for whom these variables were included. For this sample of students these three variables together with age, high school grades, and the number of hours the student is employed account for 31 percent of the variance of his college grades. This reflects a multiple correlation of better than 0.55 which is very high for this type of data. In almost all of the equations in which they are included as possible predictors some of the variables reflect the nature and severity of the students' school problems as significant predictors.

In the sets of equations in which the ratings of the schools' student personnel facilities the instructors, the counselors, and the counseling information were the criteria, approximately one-half of the significant predictors were from the set of variables measuring the students' problems. One of these problem related predictors was of such prominence that it was examined as a criterion. Not unexpectedly the main predictors of this criterion were other variables reflecting issues of student problems, those of academic difficulties, indifference, and of being too busy.

One set of variables measured three aspects of five classes of student problems the extent of students' felt need for help, the extent to which they sought help, and the degree to which they felt they received help for

each class of problems. The variables expressing need for help and expressing the degree of help received were significant predictors in several instances. But in only one equation did a variable reflecting the extent to which the students sought help for one of their problems show up as a significant predictor. This result reflects the correlation between the need, the seeking, and the receiving of help.

One finding cited in Chapter 5 above should be re-emphasized here. The students' rating of the schools and counseling, together with the variables reflecting problems of the students, were used as independent variables in one analysis of the variables, discriminating between ethnic majority students and minority students. In another analysis the same set was used in a discriminant function between students in transfer majors and students in terminal or two-year programs. The minority students were discriminated from the majority students in that the minority students indicated they had a greater need for financial help and simultaneously received less financial help. The students in two-year programs differed from the students in transfer majors primarily in that the two-year or vocational major students indicated less need for help in planning their academic futures and needed less help in selecting their classes and instructors.

Employment and Financial Support

Another set of variables in the data of the study and used in the set of potential independent variables in the analyses were variables related to the sources of financial support and funds, and variables measuring the extent to which money or employment was a source of problems for the student. These variables were very powerful predictors in discriminating between the full-time and the part-time student and between the student attending day classes as opposed to night classes. These variables together with ethnic classification account for almost 60 percent of that variation. To a lesser extent these variables associated with student support and employment were among the significant predictors of grades and the consistency or inconsistency of the students' goals and programs.

School Variables

A final classification of measures to be discussed are those scales which are descriptive of the schools themselves. Only fourteen such variables, see Table 4-1, were included in the main analyses. These variables account for a small but a significant part of the explanatory power of the analyses. These results show that the schools stressing the academic development of the students tend to be rated higher in their student personnel services and tend to have fewer students who are inconsistent in their indicated choices of career expectations and college plans. The schools that were rated by the project staff as being more oriented toward academic programs tended to have lower average grades, tended to have lower (student) ratings of their instructors, and to have positive weighting in the equations examining student attrition. Those schools rated by the project staff as having students from a higher social class tended to have negative weighting in the student attrition analyses, possibly suggesting that their students were more likely to drop out. And finally, those schools that were rated by their faculties as stressing student benefits tended to have higher average student grades.

In none of the above associations were these school variables strong predictors. At least a part of this can be due to the low variance in the school variables, since they are aggregated measures representing averaged values. With a larger sample of schools and with all values aggregated for school units these associations would be expected to be stronger.

Summary and Recommendations

The results in the chapters preceeding this one show other variables which enter into the predictions. Those presented here represent one grouping of the major significant independent variables. The presentation in terms of groups of variables is also to be viewed as a finding of this study. These data like most similar data in the education area reveal very few strong relationships. The unreliability of the data due to sampling and measurement errors, including those errors of self-reported

data, strongly mitigates against the use of a single variable from any of these sets as a single good predictor. The dangers of generalization from the best non-random sample alone would argue against such extrapolation. However, the consideration of these variables may add some security to the anticipation that similar sets of variables may operate in a similar way with related samples. However, no quantification can be given to this increase in reliability. Given these limitations the analyses indicate that these sets of variables may be expected to show small to moderate predictive power for the types of criteria examined in the analyses.

A clearly necessary recommendation must be that these analyses can only be considered a first phase in the study of what relationships or structure these data may hold. The results reported here cover more than 50 analyses involving regression, discriminant analysis, contingency table analysis, and other procedures. These analyses were preceded by even more analyses, some involving several hundred variables. Almost all of the analyses were limited to the examination of linear additive effects. The few analyses which may have been sensitive to non-additivity tended to confirm that such effects were present. This first analysis can serve as a useful guide to sets of variables that should be examined in a more highly structured and a more sophisticated and intensive fashion using these same sets of data as well as with better samples of similar sets of information.

REFERENCES TO PART ONE

Goodlad, L.A. The multivariate analysis of qualitative data: Interactions among multiple classifications. Journal of the American Statistical Association, 1970, 63, 1091-1131.

Goodlad, L.A. A general model of the analysis of surveys. American Journal of Sociology, 1972, 77, 1035-1086. (a)

Goodlad, L.A. A modified multiple regression approach to the analysis of dichotomous variables. American Sociological Review, 1972, 37, 28-46. (b)

Pace, C.R. College and university environment scales, second edition: Technical manual. Princeton: Educational Testing Service, 1969.

Trent, J.W., & Cohen, A.M. Research on teaching in higher education. In R.M.W. Travers (Ed.), Second handbook of research on teaching. (A project of the American Educational Research Association) Chicago: Rand McNally, in press.

Trent, J.W., & Medsker, L.L. Beyond high school: A sociological study of 10,000 high school graduates. San Francisco: Jossey-Bass, 1969.

Tukey, J. Exploratory data analysis. Vol. I (Limited Preliminary Edition) Reading, Massachusetts: Addison-Wesley, 1970.

APPENDIX A
TABLES TO PART ONE

TABLE 2-1
Frequency Distribution of
CREATIVE Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
-1	164	5.3
0	728	23.7
1	1275	41.4
2	910	29.6
Total	3078	100.0

TABLE 2-2
Frequency Distribution of
ANXIETY Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
-1	585	19.0
0	689	22.4
1	567	18.4
2	440	14.3
3	458	14.9
4	339	11.0
Total	3078	100.0

TABLE 2-3
Frequency Distribution of
SCIENTIFIC Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
0	201	6.5
1	541	17.6
2	653	21.2
3	568	18.5
4	588	19.1
5	527	17.1
Total	3078	100.0

TABLE 2-4
Frequency Distribution of
OPENESS Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
0	139	4.5
1	349	11.3
2	837	27.2
3	1753	57.0
Total	3078	100.0

TABLE 2-5
Frequency Distribution of
NON-COMPLEXITY Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
0	392	12.7
1	688	22.4
2	844	27.4
3	690	22.4
4	464	15.1
Total	3078	100.00

TABLE 2-6
Frequency Distribution of
AUTHORITARIAN Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
0	279	9.1
1	633	20.6
2	722	23.5
3	678	22.0
4	495	16.1
5	271	8.8
Total	3078	100.0

TABLE 2-7
Frequency Distribution of
INTROSPECTIVE Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
0	507	16.5
1	970	31.5
2	1610	52.0
Total	3078	100.0

TABLE 2-8
Frequency Distribution of
THEORECTICAL Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
0	146	4.7
1	279	9.1
2	577	18.7
3	893	29.0
4	1183	38.4
Total	3078	100.0

TABLE 2-9
Frequency Distribution of
COMPULSIVE-ORGANIZATION Factor Score
(From Items 30A and 30B, common set)

Value	Frequency	Percent
0	467	15.2
1	737	23.9
2	992	32.2
3	880	28.6
Total	3078	100.0

TABLE 2-10
Frequency Distribution of
REASON FOR ATTENDING COLLEGE--LIBERAL EDUCATION VERSUS SPECIFIC JOB SKILLS
(From Item 27, common set)

Value	Frequency	Percent
-3	667	21.7
-2	551	17.9
-1	308	10.0
0	752	24.4
1	290	9.4
2	341	11.1
3	169	5.5
Total	3078	100.0

TABLE 2-11
Frequency Distribution of
REASON FOR ATTENDING COLLEGE--ENJOYMENT VERSUS TO PREPARE FOR CAREER
(From Item 27, common set)

Value	Frequency	Percent
-3	803	26.1
-2	617	20.0
-1	298	9.7
0	905	29.4
1	178	5.8
2	166	5.4
3	111	3.6
Total	3078	100.0

TABLE 2-12
Frequency Distribution of
REASON FOR ATTENDING COLLEGE--TO GAIN KNOWLEDGE ABOUT COMMUNITY VERSUS MAKE UP HIGH SCHOOL DEFICIENCES
(From Item 27, common set)

Value	Frequency	Percent
-2	59	1.9
-1	68	2.2
0	2006	65.2
1	451	14.7
2	358	11.6
3	136	4.4
Total	3078	100.0

TABLE 2-13
Frequency Distribution of
REASON FOR ATTENDING COLLEGE--NOTHING ELSE TO DO
(From Item 27, common set)

Value	Frequency	Percent
0	2521	81.9
1	259	8.4
2	154	5.0
3	108	3.5
4	36	1.2
Total	3078	100.0

TABLE 2-14
Frequency Distribution of
REASON FOR ATTENDING COLLEGE--SOCIAL LIFE AND ATHLETICS
(From Item 27, common set)

Value	Frequency	Percent
0	2851	92.6
1	142	4.6
2	85	2.8
Total	3078	100.0

TABLE 2-15
Frequency Distribution of
MOTHERS' ACTIVITIES--PROFESSIONAL AND
COMMUNITY ORGANIZATIONS
(From Item 31, common set)

Value	Frequency	Percent
0	1780	57.8
1	680	22.1
2	415	13.5
3	160	5.2
4	43	1.4
Total	3078	100.0

TABLE 2-16
Frequency Distribution of
MOTHERS' ACTIVITIES--READS BOOKS AND MAGAZINES,
ATTENDS CONCERTS
(From Item 31, common set)

Value	Frequency	Percent
0	1186	38.5
1	818	26.6
2	518	18.9
3	354	11.5
4	139	4.5
Total	3078	100.0

TABLE 2-17
Frequency Distribution of
MOTHERS' ACTIVITIES--READS DAILY PAPER,
WATCHES TV NEWS EACH NIGHT
(From Item 31, common set)

Value	Frequency	Percent
0	630	20.7
1	937	30.4
2	1507	48.9
Total	3078	100.0

TABLE 2-18
Frequency Distribution of
FATHERS' ACTIVITIES--PROFESSION AND COMMUNITY ORGANIZATIONS
(From Item 31, common set)

Value	Frequency	Percent
0	1809	58.8
1	647	21.0
2	396	12.9
3	168	5.5
4	58	1.9
Total	3078	100.0

TABLE 2-19
Frequency Distribution of
FATHERS' ACTIVITIES--READS BOOKS AND MAGAZINES, ATTENDS CONCERTS
(From Item 31, common set)

Value	Frequency	Percent
0	1287	41.8
1	753	24.5
2	569	18.5
3	366	11.9
4	103	3.3
Total	3078	100.0

TABLE 2-20
Frequency Distribution of
FATHERS' ACTIVITIES--READS DAILY PAPER, WATCHES TV NEWS EACH NIGHT
(From Item 31, common set)

Value	Frequency	Percent
0	656	21.3
1	756	24.5
2	1669	54.2
Total	3078	100.0

TABLE 2-21
Frequency Distribution of
STUDENTS' ACTIVITIES--PROFESSIONAL AND COMMUNITY ORGANIZATIONS
(From Item 31, common set)

Value	Frequency	Percent
0	1757	57.1
1	732	23.8
2	371	12.1
3	163	5.3
4	55	1.8
Total	3078	100.0

TABLE 2-22
Frequency Distribution of
STUDENTS' ACTIVITIES--READS BOOKS AND MAGAZINES AND ATTENDS CONCERTS
(From Item 31, common set)

Value	Frequency	Percent
0	351	11.4
1	674	21.9
2	831	27.0
3	740	24.0
4	482	15.7
Total	3078	100.0

TABLE 2-23
Frequency Distribution of
STUDENTS' ACTIVITIES--READS DAILY PAPER, WATCHES TV NEWS EACH NIGHT
(From Item 31, common set)

Value	Frequency	Percent
0	462	15.0
1	1181	38.4
2	1435	46.6
Total	3078	100.0

TABLE 2-24
Frequency Distribution of
FIELD OF MAJOR
(Recoded from Item 17)

Value	Fields of Major	Frequency	Percent
1	Liberal Arts	644	21.6
2	Pre-Professional	803	26.1
3	Technical, Agriculture	517	16.8
4	Public or Health Services	205	6.7
5	Business	298	9.7
Missing	No response, unclassifiable	591	19.2
Total		3078	100.0

TABLE 2-25
Frequency Distribution of
FIELD OF MAJOR
(Recoded from Item 17)

Value	Fields of Major	Frequency	Percent
1	Transfer programs	1467	47.7
2	Two-year programs	1020	33.1
Missing	Unclassifiable	591	19.2
Total		3078	100.00

TABLE 2-26
Frequency Distributions of
FATHER'S, MOTHER'S AND STUDENTS' EXPECTED OCCUPATION

Value	Occupation Level	FATHERS OCCUPATION		MOTHERS OCCUPATION		STUDENTS EXPECTED OCCUPATION	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
1	Unskill, semi-skilled	974	31.6	638	20.7	290	9.4
2	Skilled, technical, semi-professional	1465	47.6	536	17.4	1019	33.1
3	Professional, managerial	450	14.6	208	6.8	1073	34.9
Missing	Unclassifiable	179	6.2	1696	55.1	696	22.6
Total		3078	100.0	3078	100.0	3078	100.0

TABLE 2-27
Frequency Distribution of
STUDENT ETHNIC CLASSIFICATION
(Recoded from Item 4)

Value	Ethnic Classification	Frequency	Percent
0	Minority	691	22.4
1	White	2305	74.9
Missing	Unclassifiable	82	2.7
Total		3078	100.0

TABLE 2-28
Frequency Distribution of
STUDENTS' EDUCATIONAL OBJECTIVE AT THIS INSTITUTION
(Recoded for Item 18)

Value	Educational Objective	Frequency*	Percent of Total Sample
1	Transfer to four-year college or university	1770	57.5
2	Earn Associate of Arts degree	483	15.7
3	Vocational preparation	711	23.1
4	Other	537	17.4

*Totals to more than 3078 in sample. Students were instructed to indicate as many objective as applied.

TABLE 2-29
Frequency Distribution of
WORKING MAY RESULT IN POOR GRADES Factor Score
(Derived from Item 47, Form A)

Value	Frequency	Percent
0	704	66.9
1	243	23.1
2	88	8.4
3	18	1.7
Total	1053	100.0

TABLE 2-30
Frequency Distribution of
WORKING MAY RESULT IN DROPPING OUT Factor Score
(Derived from Item 47, Form A)

Value	Frequency	Percent
0	984	93.4
1	57	5.4
2	12	1.1
Total	1053	100.0

TABLE 2-31
Frequency Distribution of
STRONG EGO Factor Scores
(Derived from Item 51, Form B)

Value	Frequency	Percent
3	3	0.3
4	6	.6
5	1	.1
6	13	1.3
7	16	1.6
8	36	3.5
9	59	5.7
10	72	7.0
11	99	9.6
12	100	9.7
13	128	12.4
14	104	10.1
15	101	9.8
16	84	8.1
17	56	5.4
18	56	5.4
19	54	5.2
Missing	44	4.3
Total	1032	100.0

TABLE 2-32
Frequency Distribution of
WEAK EGO Factor Scores
(Derived from Item 51, Form B)

Value	Frequency	Percent
4	172	16.7
5	133	12.9
6	161	15.6
7	162	15.7
8	274	26.6
9	59	5.7
10	18	1.7
11	15	1.5
12	3	0.3
13	1	0.1
15	1	0.1
Missing	33	3.2
Total	1032	100.0

TABLE 2-33
Frequency Distribution of
PERSONAL AMBITION Factor Scores
(Derived from Item 52, Form B)

Value	Frequency	Percent
3	2	0.2
4	3	0.3
5	11	1.1
6	4	0.4
7	11	1.1
8	24	2.3
9	19	1.8
10	25	2.4
11	29	2.8
12	40	3.9
13	53	5.1
14	70	6.8
15	94	9.1
16	99	9.6
17	136	13.2
18	113	10.9
19	85	8.2
20	80	7.8
21	74	7.2
22	1	0.1
Missing	59	5.7
Total	1032	100.0

TABLE 2-34
Frequency Distribution of
SOCIAL AMBITION FACTOR SCORES
(Derived from Item 52, Form B)

Value	Frequency	Percent
1	39	3.8
2	16	1.6
3	22	2.1
4	28	2.7
5	44	4.3
6	44	4.3
7	61	5.9
8	45	4.4
9	71	6.9
10	46	4.5
11	45	4.4
12	47	4.6
13	55	5.3
14	47	4.6
15	44	4.3
16	46	4.5
17	46	4.5
18	34	3.3
19	25	2.4
20	30	2.9
21	19	1.8
22	19	1.8
23	21	2.0
24	12	1.2
25	7	0.7
26	9	0.9
27	4	0.4
28	2	0.2
30	1	0.1
31	1	0.1
32	1	0.1
Missing	101	9.8
Total	1032	100.0

TABLE 2-35
Frequency Distribution of
ROTTER SCALE, BELIEF IN INTERNAL CONTROL
(Derived from Item 50, Form B)

Value	Frequency	Percent
0	376	36.4
1	291	28.2
2	208	20.2
3	118	11.4
4	39	100.0
Total	1032	100.0

TABLE 2-36
Frequency Distribution of
REASON FOR ATTENDING THIS SCHOOL--COST CONSIDERATIONS
(Derived from Item 42, Form B)

Value	Frequency	Percent
0	349	33.8
1	189	18.3
2	223	21.6
3	271	26.3
Total	1032	100.0

TABLE 2-37
Frequency Distribution of
REASON FOR ATTENDING THIS SCHOOL--NEARNESS
(Derived from Item 42, Form B)

Value	Frequency	Percent
0	345	33.4
1	166	16.1
2	331	32.1
3	190	18.4
Total	1032	100.0

TABLE 2-38
Frequency Distribution of
REASON FOR ATTENDING THIS SCHOOL--PARTICULAR COURSES
(Derived from Item 42, Form B)

Value	Frequency	Percent
0	504	48.8
1	157	15.2
2	119	11.5
3	248	24.0
4	4	0.4
Total	1032	100.0

TABLE 2-39
Frequency Distribution of
NEED COUNSELING HELP FOR PERSONAL PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	759	76.4
1	100	10.1
2	58	7.9
3	56	5.6
Total	993	100.0

TABLE 2-40
Frequency Distribution of
NEED COUNSELING HELP FOR ACADEMIC PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	548	55.2
1	200	20.1
2	122	12.3
3	88	8.9
4	35	3.5
Total	993	100.0

TABLE 2-41
Frequency Distribution of
NEED COUNSELING HELP FOR PLANNING ACADEMIC GOALS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	472	47.5
1	255	25.7
2	138	13.9
3	72	7.3
4	56	5.6
Total	993	100.0

TABLE 2-42
Frequency Distribution of
NEED COUNSELING HELP FOR FINANCIAL PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	667	67.2
1	193	19.4
2	87	8.8
3	46	4.6
Total	993	100.0

TABLE 2-43
Frequency Distribution of
NEED COUNSELING HELP FOR CLASS SELECTION
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	429	43.2
1	375	37.8
2	189	19.0
Total	993	100.0

TABLE 2-44
Frequency Distribution of
SOUGHT COUNSELING HELP FOR PERSONAL PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	883	88.9
1	71	712
2	26	2.6
3	13	1.3
Total	993	100.0

TABLE 2-45
Frequency Distribution of
SOUGHT COUNSELING HELP FOR ACADEMIC PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	720	72.5
1	165	16.6
2	74	7.5
3	28	2.8
4	6	0.6
Total	993	100.0

TABLE 2-46
Frequency Distribution of
SOUGHT COUNSELING HELP FOR PLANNING ACADEMIC GOALS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	571	57.5
1	236	23.8
2	109	11.0
3	51	5.1
4	26	2.6
Total	993	100.0

TABLE 2-47
Frequency Distribution of
SOUGHT COUNSELING HELP FOR FINANCIAL PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	780	78.5
1	151	15.2
2	50	5.0
3	12	1.2
Total	993	100.0

TABLE 2-48
Frequency Distribution of
SOUGHT COUNSELING HELP FOR CLASS SELECTION
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	538	54.2
1	357	36.0
2	98	9.9
Total	993	100.0

TABLE 2-49
Frequency Distribution of
RECEIVED HELP WITH PERSONAL PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	900	90.6
1	60	6.0
2	25	2.5
3	8	0.8
Total	993	100.0

TABLE 2-50
Frequency Distribution of
RECEIVED HELP WITH ACADEMIC PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	784	79.0
1	151	15.2
2	43	4.3
3	12	1.2
4	3	0.3
Total	993	100.0

TABLE 2-51
Frequency Distribution of
RECEIVED HELP WITH PLANNING ACADEMIC GOALS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	686	69.1
1	179	18.0
2	85	8.6
3	31	3.1
4	12	1.2
Total	993	100.0

TABLE 2-52
Frequency Distribution of
RECEIVED HELP WITH FINANCIAL PROBLEMS
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	849	85.5
1	116	11.7
2	24	2.4
3	4	0.4
Total	993	100.0

TABLE 2-53
Frequency Distribution of
RECEIVED HELP WITH CLASS SELECTION
(Derived from Item 33, Form C)

Value	Frequency	Percent
0	638	64.2
1	295	29.7
2	60	6.0
Total	993	100.0

TABLE 2-54
Frequency Distribution of
PROBLEMS WITH SCHOOL--COLLEGE DISAPPOINTING, BORED WITH CLASSES
(Derived from Item 42, Form C)

Value	Frequency	Percent
0	280	28.2
1	144	14.5
2	111	11.2
3	76	7.7
4	60	6.0
5	47	4.7
6	24	2.4
7	26	2.6
8	16	1.6
9	12	1.2
10	9	0.9
11	6	0.6
12	6	0.6
13	3	0.3
14	1	0.1
15	3	0.3
Missing	169	17.0
Total	993	100.0

TABLE 2-55
Frequency Distribution of
PROBLEMS WITH SCHOOL--NOT SMART ENOUGH, CLASSES TOO DIFFICULT
(Derived from Item 42, Form C)

Value	Frequency	Percent
0	227	22.9
1	191	19.2
2	166	16.7
3	138	13.9
4	98	9.9
5	35	3.5
6	24	2.4
7	13	1.3
8	11	1.1
9	9	0.9
10	4	0.4
11	2	0.2
12	2	0.2
Missing	73	7.4
Total	993	100.0

TABLE 2-56
Frequency Distribution of
PROBLEMS WITH SCHOOL--UNDECIDED ABOUT GOALS
(Derived from Item 42, Form C)

Value	Frequency	Percent
0	531	53.5
1	135	13.6
2	133	13.4
3	42	4.2
4	25	2.5
5	12	1.2
6	21	2.1
Missing	94	9.5
Total	993	100.0

TABLE 2-57
Frequency Distribution of
PROBLEMS WITH SCHOOL--TOO MANY ACTIVITIES
(Derived from Item 42, Form C)

Value	Frequency	Percent
0	371	37.4
1	203	2014
2	158	15.9
3	78	7.9
4	39	3.9
5	21	2.1
6	16	1.6
7	3	0.3
8	4	0.4
9	4	0.4
Missing	96	9.7
Total	993	100.0

TABLE 2-58
Frequency Distribution of
PROBLEMS WITH SCHOOL--INDIFFERENT ABOUT COLLEGE
(Derived from Item 42, Form C)

Value	Frequency	Percent
0	645	65.0
1	126	12.7
2	47	4.7
3	29	2.9
4	12	1.2
5	12	1.2
6	9	0.9
7	1	0.1
8	1	0.1
9	4	0.4
Missing	107	10.8
Total	993	100.0

TABLE 2-59
Frequency Distribution of
PROBLEMS WITH SCHOOL--EDUCATIONAL BACKGROUND IS WEAK
(Derived from Item 42, Form C)

Value	Frequency	Percent
0	368	37.1
1	216	21.8
2	142	14.3
3	91	9.2
4	36	3.6
5	13	1.3
6	14	1.4
7	5	0.5
8	4	0.4
9	3	0.3
Missing	101	10.2
Total	993	100.0

TABLE 2-60
Frequency Distribution of
PROBLEMS WITH SCHOOL--OTHER
(Derived from Item 42, Form C)

Value	Frequency	Percent
0	351	35.3
1	241	24.3
2	117	11.8
3	87	8.8
4	52	5.2
5	16	1.6
6	20	2.0
7	5	0.5
8	7	0.7
9	4	0.4
10	2	0.2
11	1	0.1
12	1	0.1
Missing	89	9.0
Total	993	100.0

TABLE 2-61
Frequency Distribution of
SOCIAL SKILLS Factor Score
(Derived from Item 47, Form C)

Value	Frequency	Percent
7	1	0.1
8	2	0.2
10	2	0.2
11	1	0.1
12	4	0.4
13	11	1.1
14	22	2.2
15	30	3.0
16	39	3.9
17	67	6.7
18	127	12.8
19	111	11.2
20	91	9.2
21	102	10.3
22	78	7.9
23	78	7.9
24	47	4.7
25	39	3.9
26	24	2.4
27	17	1.7
28	19	1.9
29	12	1.2
30	12	1.2
Missing	57	5.7
Total	993	100.0

TABLE 2-62
Frequency Distribution of
ACADEMIC SKILLS Factor Score
(Derived from Item 47, Form C)

Value	Frequency	Percent
4	2	0.2
5	2	0.2
6	2	0.2
7	15	1.5
8	33	3.3
9	40	4.0
10	85	8.6
11	149	15.0
12	179	18.0
13	129	13.0
14	112	11.3
15	85	8.6
16	54	5.4
17	19	1.9
18	19	1.9
19	14	1.4
20	5	0.5
Missing	49	4.9
Total	993	100.0

TABLE 2-63
Frequency Distribution of
ARTISTIC SKILLS Factor Score
(Derived from Item 47, Form C)

Value	Frequency	Percent
2	22	2.2
3	48	4.8
4	121	12.2
5	190	19.1
6	233	23.5
7	135	13.6
8	124	12.5
9	36	3.6
10	39	3.9
Missing	45	4.5
Total	993	100.0

TABLE 2-64
Frequency Distribution of
MATHEMATICAL--MECHANICAL SKILLS Factor Score
(Derived from Item 47, Form C)

Value	Frequency	Percent
3	13	1.3
4	18	1.8
5	40	4.0
6	60	6.0
7	116	11.7
8	125	12.6
9	154	15.5
10	154	15.5
11	123	12.4
12	52	5.2
13	30	3.0
14	4	0.4
15	2	0.2
Missing	56	5.6
Total	993	100.0

TABLE 2-65
Frequency Distribution of
HOMEMAKING SKILLS Factor Scores
(Derived from Item 47, Form C)

Value	Frequency	Percent
2	11	1.1
3	22	2.2
4	64	6.4
5	110	11.1
6	238	24.0
7	214	21.6
8	156	15.7
9	78	7.9
10	40	4.0
Missing	60	6.0
Total	993	100.0

TABLE 2-66
Frequency Distribution of
CLERICAL SKILLS Factor Scores
(Derived from Item 47, Form C)

Value	Frequency	Percent
2	17	1.7
3	30	3.0
4	79	8.0
5	161	16.2
6	290	29.2
7	218	22.0
8	96	9.7
9	27	2.7
10	15	1.5
Missing	60	6.0
Total	993	100.0

TABLE 2-67
Frequency Distribution of
RATINGS OF COUNSELORS
(Derived from Item 36, Form C)

Value	Frequency	Percent
9	87	8.8
10	29	2.9
11	29	2.9
12	34	3.4
13	39	3.9
14	43	4.3
15	42	4.2
16	41	4.1
17	38	3.8
18	82	8.3
19	22	2.2
20	34	3.4
21	28	2.8
22	13	1.3
23	19	1.9
24	11	1.1
25	10	1.0
26	5	0.5
27	8	0.8
28	3	0.3
29	4	0.4
30	2	0.2
31	2	0.2
32	2	0.2
33	1	0.1
36	3	0.3
Missing	362	36.5
Total	993	100.0

TABLE 2-68
Frequency Distribution of
RATINGS OF INSTRUCTORS
(Derived from Item 46, Form C)

Value	Frequency	Percent
24	2	0.2
25	2	0.2
26	1	0.1
27	1	0.1
29	2	0.2
30	1	0.1
31	5	0.5
32	3	0.3
33	3	0.3
34	3	0.3
35	3	0.3
36	8	0.8
37	6	0.6
38	8	0.8
39	12	1.2
40	15	1.5
41	10	1.0
42	9	0.9
43	22	2.2
44	26	2.6
45	29	2.9
46	25	2.5
47	34	3.4
48	36	3.6
49	34	3.4
50	51	5.1
51	63	6.3
52	63	6.3
53	54	5.4
54	31	3.1
55	32	3.2
56	37	3.7
57	27	2.7
58	31	3.1
59	28	2.8
60	32	3.2
61	28	2.8
62	33	3.3
63	21	2.1
64	27	2.7
65	70	7.0
Missing	65	6.5
Total	993	100.0

TABLE 2-69
Frequency Distribution of
RATINGS OF SCHOOL PERSONNEL SERVICES
(Derived from Item 4o, Form C)

Value	Frequency	Percent
9	10	1.0
10	9	0.9
11	16	1.6
12	23	2.3
13	26	2.6
14	42	4.2
15	65	6.5
16	73	7.4
17	108	10.9
18	181	18.2
19	106	10.7
20	84	8.5
21	47	4.7
22	35	3.5
23	26	2.6
24	16	1.6
25	3	0.3
26	6	0.6
27	4	0.4
Missing	113	11.4
Total	993	100.0

TABLE 3-1
Level of Students Expected Occupations
(JOB-EXPECTED, SELF)
(Recoded from Item 8)

Value	Occupational	No.	Percent
1 (Low)	Semi- and Unskilled	290	12.2
2 (Middle)	Skilled	1019	42.8
3 (High)	Professional	1073	45.0
	TOTAL	2382	100.01

TABLE 3-2
Correlates Discriminating the Level of the
Students' Occupational Choices

Predictor	B	Beta	F
IMPORTANCE, STUDENT	-0.144	-0.167	15.589
REASON-LIB ED vs SKILLS	0.057	0.154	14.925
VOCABULARY	0.021	0.112	7.346
INTROSPECTIVE	0.097	0.106	6.731
REASON-ENJOYMENT vs CAREER	-0.037	-0.093	4.910
SEX	0.128	0.092	5.359
JOB-MOTHER	0.102	0.110	6.909
INTELLECTUAL-SELF	-0.058	-0.099	5.717
(Constant)	1.902		
$R = 0.363$		F = 10.593	
$R^2 = 0.132$		df = 8,559	

TABLE 3-3
Correlates Discriminating Professional Versus
Other Occupational Choices*

Predictor	B	Beta	F
IMPORTANCE, STUDENT	-0.099	-0.165	11.822
VOCABULARY	0.016	0.123	7.297
REASON-LIB ED vs SKILLS	0.035	0.135	8.980
REASON-ENJOYMENT vs CAREER	-0.035	-0.127	7.071
COLLEGE GRADES	-0.037	-0.090	3.852
(Constant)	0.411		
$R = 0.331$		F = 11.010	
$R^2 = 0.109$		df = 5,448	

*Coded Professions = 1; Other = 0

TABLE 3-4
Correlate Discriminating Professional Versus
Skilled Occupational Choices*

Predictor	B	Beta	F
IMPORTANCE, STUDENT	-0.112	-0.182	20.666
REASON-LIB ED vs SKILLS	0.035	0.132	11.910
VOCABULARY	0.015	0.114	8.727
REASON-ENJOYMENT vs CAREER	-0.036	-0.126	9.929
OPENNESS	0.053	0.090	5.526
(Constant)	0.252		
R = 0.336		F = 16.052	
R^2 = 0.113		df = 5,629	

*Coded Professions = 1; Skilled = 0

TABLE 3-5
Correlate Discriminating Skilled Versus
Semi- and Unskilled Occupational Choices*

Predictor	B	Beta	F
REASON-LIB ED vs SKILLS	-0.052	-0.193	18.035
ORGANIZATIONS-SELF	0.063	0.125	7.362
JOB-MOTHER	-0.079	-0.116	6.465
COLLEGE GRADES	-0.045	-0.102	5.044
ANXIETY	-0.026	-0.085	3.498
(Constant)	0.713		
R = 0.285		F = 7.918	
R^2 = 0.081		df = 5,448	

*Coded Skilled = 1; Unskilled = 0

TABLE 3-6
Multivariate Contingency Table Analysis of
Five Variables Related to Indicated Expected
Careers in the Professions

EFFECT	LAMBDA	BETA*	STANDARDIZED BETA
GRAND MEAN	16.6650	2.8133	58.4302
E	1.1591	0.1477	3.0668
I	0.9785	0.0217	0.4511
V	0.8352	0.1801	3.7406
L	1.3239	0.2806	5.8275
M	1.1292	0.1215	2.5237
EI	1.1257	-0.1184	- 2.4597
EV	1.1660	-0.1536	- 3.1895
EL	1.1788	-0.1645	3.4165
EM	1.1335	0.1253	2.6020
IV	1.0157	-0.0156	- 0.3232
IL	1.0444	-0.0435	- 0.9027
IM	0.9910	0.0091	0.1883
VL	1.1470	-0.1371	- 2.8478
VM	1.0766	-0.0738	- 1.5324
LM	1.0700	0.0676	1.4048
EIV	1.2097	0.1904	3.9541
EIL	0.9387	0.0632	1.3133
EIM	0.9360	0.0661	1.3738
EVL	0.9613	0.0394	0.8189
EVM	0.9344	0.0679	1.4092
ELM	0.9019	-0.1033	- 2.1445
IVL	0.9987	-0.0013	- 0.0271
IVM	0.9837	-0.0164	- 0.3410
ILM	1.0564	-0.0549	- 1.1398
VLM	1.0705	-0.0681	- 1.4143
EIVL	0.8692	-0.1402	- 2.9123
EIVM	0.9510	0.0502	- 1.0425
EILM	0.9029	0.1022	2.1224
EVLM	0.9522	0.0490	1.0172
IVLM	1.0354	0.0348	0.7228
EIVLM	1.0254	0.251	0.5217

*SE = 0.04815
N = 607
I = INSTROSPECTION SCALE LOW VERSUS HIGH
L = LIBERAL EDUCATION VERSUS PRACTICAL
E = ENJOYMENT VERSUS SPECIFIC JOB TRAINING
V = VOCABULARTY SCORE LOW VERSUS HIGH
M = IMPORTANCE TO RESPONDENT HIGH VS. LOW

TABLE 3-7
Categorization and Distribution of
Students' Educational Objectives

Specific Objective	Category	Percentage of students in each Category
(1) Earn an A.A. & transfer Complete 2 years & transfer without an A.A. Transfer before 2 years	Transfer to a four-year College or University	57.5
(2) Earn an A.A. only	Associate degree only	15.7
(3) Earn a Vocational Certificate only Take courses to prepare for an occupation Take courses to improve skills	Vocational preparation	23.1
(4) Courses for personal enjoyment Make up high school deficiencies Other	Other	17.4
TOTAL		113.7*

*The percentages total more than 100 since they could check more than one objective.

TABLE 3-8
Correlates Discriminating Students Who Plan to Transfer

Predictor	B	Beta	F
IMPORTANCE, STUDENT	-0.135	-0.215	24.742
REASON-LIB ED vs SKILLS	0.061	0.228	32.393
REASON-ENJOYMENT vs CAREER	-0.38	-0.131	9.449
OPENNESS	0.064	0.107	7.036
SEX	-0.121	-0.121	8.984
CERTAINTY OF GOALS	0.101	0.101	5.837
AGE	-0.032	-0.093	5.048
COLLEGE GRADES	-0.037	-0.085	3.995
(Constant)	0.839		
R = 0.419		F = 13.961	
R^2 = 0.176		df = 8,523	

TABLE 3-9
Correlates Discriminating Students Who Planned to
Attain Only an Associate of Arts Degree

Predictor	B	Beta	F
REASON-LIB ED vs SKILLS	-0.033	-0.168	16.639
JOB-MOTHER	-0.061	-0.122	8.860
THEORETICAL	-0.029	-0.091	4.854
(Constant)	0.325		
R = 0.241		F = 11.592	
R^2 = 0.058		df = 3,564	

TABLE 3-10
Correlates Discriminating Students Attending Junior Colleges
for the Specific Courses Offered

Predictor	B	Beta	F
REASON-LIB ED vs SKILLS	-0.046	-0.204	25.074
IMPORTANCE, STUDENT	0.080	0.152	14.069
THEORETICAL	-0.041	-0.112	7.492
(Constant)	0.186		
R = 0.291		F = 17.399	
R^2 = 0.085		df = 3,564	

TABLE 3-11
Correlates Discriminating Students Attending College for Reasons
Other than Transferring, an Associate Degree or Specific Courses

Predictor	B	Beta	F
REASON-ENJOYMENT vs CAREER	0.043	0.195	20.684
IMPORTANCE, STUDENT	0.065	0.137	10.175
VOCABULARY	0.010	0.093	5.375
EDUCATION-MOTHER	0.019	0.083	4.250
(Constant)	-0.052		
R = 0.306		F = 14.571	
R^2 = 0.094		df = 4,563	

TABLE 3-12
Correlates Discriminating Students Who Attended Junior College to Transfer Versus Those Who Attended for Specific Courses

Predictor	B	Beta	F
REASON-LIB ED vs SKILLS	0.053	0.243	37.021
IMPORTANCE, STUDENT	-0.119	-0.230	33.543
OPENNESS	0.063	0.128	9.362
AGE	-0.034	-0.118	8.371
INTROSPECTIVE	0.047	0.086	4.281
SEX	-0.061	-0.098	5.977
COLLEGE GRADES	-0.032	-0.091	4.785
(Constant)	1.075		
R = 0.428		F = 16.793	
R^2 = 0.183		df = 7,524	

*Coded Transfer = 1; Courses = 0

TABLE 3-13
Correlates Discriminating Transfer Versus Non-transfer Major

Predictor	B	Beta	F
REASON-LIB ED vs SKILLS	-0.087	-0.329	55.300
JOB-MOTHER	-0.083	-0.124	8.185
INTELLECTUAL-SELF	-0.044	-0.110	6.175
COLLEGE GRADES	-0.038	-0.090	4.298
(Constant)	1.691		
R = 0.401		F = 21.486	
R^2 = 0.161		df = 4,449	

TABLE 3-14
Proportion of Students Planning to Transfer Enrolled in Transfer and Non-transfer Majors

Educational Objective	Major			
	Transfer		Non - transfer	
	(N)	%	(N)	%
Plans to transfer	(893)	77.1	(265)	22.9
No plans to transfer	(237)	28.8	(585)	71.2
TOTAL	(1130)	57.1	(850)	42.9

TABLE 3-15
Proportion of Students with Pre-professional and Non-transfer Vocational Majors by Level of Their Planned Occupations

Major	Occupational level					
	Semi/unskilled		Skilled		Professional	
	(N)	%	(N)	%	(N)	%
Pre-professional (Transfer)	(125)	11.1	(310)	27.4	(695)	61.5
Vocational (Non-transfer)	(97)	11.4	(518)	60.9	(235)	27.7
TOTAL	(222)	11.2	(828)	41.8	(930)	47.0

TABLE 3-16
Proportion of Students in Transfer and Terminal Majors by Level of Their Planned Occupations

Educational Objective	Occupational level					
	Semi/unskilled		Skilled		Professional	
	(N)	%	(N)	%	(N)	%
Plan to transfer	(130)	11.2	(338)	29.2	(690)	59.6
Do not plan to transfer	(92)	7.2	(490)	38.5	(690)	54.3
TOTAL	(222)	11.2	(828)	41.8	(930)	47.0

TABLE 3-17
Proportion of Students in Transfer and Non-transfer Majors by Plans to Transfer for Students Expecting Unskilled or Semi-skilled Jobs

Major	Educational Objective			
	Plans to Transfer		No Plans to Transfer	
	(N)	%	(N)	%
Pre-professional (Transfer)	(94)	75.2	(31)	24.8
Vocational (Non-transfer)	(36)	37.1	(61)	62.9
TOTAL	(130)	58.6	(92)	41.4

TABLE 3-18
Proportion of Students in Transfer and Non-transfer Majors
by Plans to Transfer for Students Expecting Skilled or Technical Careers

Major	Educational Objectives			
	Plans to Transfer		No Plans to Transfer	
	(N)	%	(N)	%
Pre-professional (Transfer)	(215)	69.4	(95)	30.6
Vocational (Non-transfer)	(123)	23.7	(395)	76.3
TOTAL	(338)	40.8	(490)	59.2

TABLE 3-19
Proportion of Students in Transfer and Non-transfer Majors
by Plans to Transfer for Students Expecting Professional Careers

Major	Educational Objectives			
	Plans to Transfer		No Plans to Transfer	
	(N)	%	(N)	%
Pre-Professional (Transfer)	(584)	84.0	(111)	16.0
Vocational (Non-transfer)	(106)	45.1	(129)	54.9
TOTAL	(690)	74.2	(240)	25.8

TABLE 3-20

Correlates Discriminating Regular Day Versus Night Class Students

Predictor	B	Beta	F
AGE	0.142	0.436	102.223
SEX	-0.097	-0.103	6.296
IMPORTANCE, PARENTS	0.038	0.098	5.128
(Constant)	1.058		
R_2 = 0.491			F = 47.595
R^2 = 0.241			df = 3,450

TABLE 3-21
Correlates Distinguishing Full-time Versus Part-time Students

Predictor	B	Beta	F
AGE	0.144	0.425	101.514
IMPORTANCE, STUDENT	0.103	0.169	16.326
ANXIETY	0.024	0.084	3.933
(Constant)	0.855		
R_2 = 0.459		F = 20.059	
R^2 = 0.211		df = 3,450	

TABLE 3-22
Form A Correlates Discriminating Day Versus Night Class Students

Predictor	B	Beta	F
EMPLOYED HRS/WK	0.207	0.596	89.665
EMPLOYMENT PLANS	-0.162	-0.328	33.270
AGE	0.064	0.195	9.665
SUPPORT-GI BILL	-0.044	-0.115	3.950
(Constant)	0.705		
R_2 = 0.765		F = 45.489	
R^2 = 0.585		df = 4,129	

TABLE 3-23
Form A Correlates Distinguishing Full-time Versus Part-time Students

Predictor	B	Beta	F
EMPLOYED HRS/WK	0.171	0.469	43.585
EMPLOYMENT PLANS	-0.100	-0.193	10.222
AGE	0.076	0.220	11.069
SUPPORT-GI BILL	-0.093	-0.233	14.753
MAJORITY	0.206	0.174	8.107
REASON FOR EMPLOYMENT	-0.248	-0.189	7.342
JOB-MOTHER	-0.079	-0.122	3.531
(Constant)	1.133		
R_2 = 0.749		F = 22.976	
R^2 = 0.561		df = 7,126	

TABLE 4-1

Common Item Variables

Variable Name	Item No.	Description of Variable
AGE	2	5 categories: 16-19, 20-25, 26-30,36-40, >40
SEX	3	Male=1, Female=2
ETHNIC BACKGROUND	4	Ethnic Group; White=1, Other=0
HIGH SCHOOL COMMUNITY	5a	Community in high school; 1=Central city, 2=Suburb or Rural
FAMILY -- INCOME	6	Family income 6 categories
EDUCATION -- FATHER	7	Father's education
EDUCATION -- MOTHER	7	Mother's education
JOB	8	1=Unskilled, 2=Skilled, Technical, 3=Professional
-FATHER	8	Father's occupation
-MOTHER	8	Mother's occupation
-EXPECTED SELF	8	Student's expected occupation
EMPLOYED HOURS/WEEK	11	Number of hours/week employed
HIGH SCHOOL GRADES	12	High school grades 1=A, 6=D or below
COLLEGE GRADES	12	College grades 1=A, 6=D or below
FULL/PART TIME STUDENTS	13	Full/part time 1=Full time, 2=Part time
CREDIT COURSES	14	Enrolled in regular credit classes 1=Yes, 2=No
DAY/NIGHT CLASSES	15	Day or night classes; 1=Day only or Day and Night, 2=Night only
FRESH./SOPH. STATUS	16	1=Less than 30 units, 2=More than 30 units
CURRENT MAJOR	17	Current major, recoded. 1=Transfer major, 2=Two-year program

TABLE 4-1 (Continued)

Variable Name	Item No.	Description of Variable
CERTAINTY OF GOALS	19	Certainty about achieving educational goals. 1=Certain, 2=Uncertain
REMEDIAL COURSES	24 (A)	Enrolled in remedial courses. 0=No, 1=Yes
COLLEGE OF CHOICE	25	Attending college of choice. 0=No, 1=Yes
IMPORTANCE, PARENTS	28	Importance to parents of college completion. 1=Very important, 5=Unimportant
IMPORTANCE, STUDENT	29	Importance to student of college completion. 1=Very important, 4=Unimportant
VOCABULARY	32	Scored as number correct
OBJECTIVE -- TRANSFER	18	Education objective, response 1, 2, or 3
OBJECTIVE -- AA DEGREE	18	Education objective, response 4
OBJECTIVE -- COURSES OFFERED	18	Education objective, respons 5, 6, or 7
OBJECTIVE -- OTHER	18	Education objective, response 8, 9, or 10

The following five variables are factor scores derived from item 27 (Reasons for attending college).

REASON -- LIB. ED. VS SKILL	27	Lib. ed. vs skill, respn. +8, -1
REASON -- ENJOYMENT VS CAREER	27	Enjoyment vs career, respn. +14, -3
REASON -- COMMTY. KNOW. VS H.S. DEFICITS	27	Community knowledge versus making up high school deficits, respn. +5, -13
REASON -- NONE	27	No reason, responses 2 and 6
REASON -- SOCIAL -- ATHLETICS	27	Social-athletics, responses 7 and 9

TABLE 4-1 (Continued)

The following nine variables are factor type scores derived from the personality responses in item 30(A) and 30(B).

Variable Name	Item No.	Description of Variable
CREATIVE	30	Creative, individualist +B3, +B6, -B18
ANXIETY	30	Nervous, anxious, etc. +B22, +B26, +B27, +B28, -B24
SCIENTIFIC	30	Scientific +B13, +A21, +A23, +A26, +A27
OPENNESS	30	Originality +A8, +A10, +A19
NON-COMPLEXITY	30	Reliable outcomes, right answers, +A9, +A13, +A14, +A17
AUTHORITARIAN	30	Obedience, law enforcement, tried and true, +A1, +A2, +A3, +A5, +A6
INTROSPECTIVE	30	Introspective, contemplative, +B7, +B15
THEORETICAL	30	Consideration of theories, the future of society, etc., +A22, +A24, +A25, +A28
COMPULSIVE ORGANIZATION	30	Set schedule, proper place, etc., +A11, +A12, +B1

The following nine variables are factor type scores derived from item 31 on the activities characteristic of the student, his mother and his father.

ORGANIZATIONS	31	Professional, labor, community organizations, etc.
-MOTHER		Mother: 5, 7, 8, 10
-FATHER	31	Father: 5, 7, 8, 10
-SELF	31	Self: 5, 7, 8, 10
INTELLECTUAL	31	Read books, magazines, discuss politics, attend concerts
-MOTHER		Mother: 1, 2, 3, 6
-FATHER	31	Father: 1, 2, 3, 6
-SELF	31	Self: 1, 2, 3, 6
CURRENT AFFAIRS	31	Read daily paper, TV news each night
-MOTHER		Mother: 4, 12
-FATHER	31	Father: 4, 12
-SELF	31	Self: 4, 12

TABLE 4-1 (Continued)

The following sets of variables constitute school characteristics.

The five school characteristics listed below were determined by the project staff.

Variable Name	Item No.	Description of Variable
SCHOOL SIZE		Relative size of student body 1=Small, 3=Large
SCHOOL STYLE		Traditional or innovative 1=Traditional, 2=Innovative
SCHOOL SES		Estimated socioeconomic status of school community 1=Low, 2=Middle, 3=High
SCHOOL LOCATION		1=Urban, 2=Suburban, 3=Rural
SCHOOL PROGRAM		Program emphasis of school, 1=Vocational, 2=Both, 3=Academic

The three factor type scores below were derived from item 40(A) of the faculty questionnaire, responses indicating educational benefits offered by their colleges.

PERSONAL-SOCIABLE	40A	Personal, social, moral and citizenship skills Responses 5, 6, 7, 11, 12, 13, 15, 16, 17
ACADEMIC DEVELOPMENT	40A	Responses 2, 3, 4, 8, 9
VOCATIONAL DEVELOPMENT	40A	Responses 1, 10, 14

The six following scores, derived from the factor analysis of faculty item 49, the abridge CUES scales, are indicators of the faculty view of their school's environmental characteristics.

AWARENESS	49	Stress cultural events, national-international affairs, famous people. Responses 10, 11, 12
PROPRIETY	49	Students take care of property, ask permission, never lampoon. Responses 13, 15, 16
COMMUNITY	49	Recognize student leaders, help each other, easy to get together. Responses 4, 5, 7, 8
SCHOLARSHIP	49	Responses 1, 17, 19, 20

TABLE 4-1 (Continued)

Variable Name	Item No.	Description of Variable
STUDENT BENEFITS	49	Practical courses given, professors help students, school is friendly, student encouraged to criticize. Responses 2, 6, 7, 9
INSTITUTIONAL RIGIDITY	49	Students expected to report violations, VIPs expected to be shown respect. Responses 3, 14

TABLE 4-2

Form A Variables

Variable Name	Item No.	Description of Variable
SUPPORT--SAVINGS	40-1	Percent of financial support for education from own savings, five levels, 1=0%, 2=1-25%, 3=26-50%, 4=51-75%, 5=76-100%
SUPPORT--INCOME	40-2	Percent support from own income, 5 levels
SUPPORT--FAMILY-- ROOM & BOARD	40-3	Percent support from family for room and board
SUPPORT--FAMILY--OTHER	40-4	Percent support from family for other than room and board
SUPPORT--SPOUSE	40-5	Percent support from spouse, 5 levels
SUPPORT--SCHOLARSHIP	40-6	Percent support from scholarships
SUPPORT--LOANS	40-7	Percent support from loans
SUPPORT--G.I. BILL	40-8	Percent support from G.I. Bill
SUPPORT--OTHER GOVERNMENT	40-9	Support from other government benefits
SUPPORT--OTHER	40-10	Support from other sources
MONEY--PROBLEM	41	Extent that finances are problem for educational progress. 1=No problem, 4=Serious problem
REASONS FOR EMPLOYMENT	41	Major reason for current employment. 1=Other than education, 2=My education

The following two factor scores were derived from the responses to item 47, the effect of working on the student's educational progress.

WORK--POOR GRADES	47	Earned poorer grades, failed a course, responses 5,6
WORK--DROP OUT		May not be able to finish school, responses 8,9

TABLE 4-5

Form B Variables

Variable Name	Item No.	Description of Variable
BENEFIT--LEARNING	35-1	Amount benefited from high school classroom learning activities. 1=Not at all, 3=A lot
BENEFIT--SOCIAL	35-2	Benefited from high school social activities
BENEFIT--ORGANIZATIONS	35-3	From high school organizations
BENEFIT--ATHLETICS	35-4	From high school athletics
BENEFIT--VOC. ED.	35-5	From high school vocational classes
BENEFIT--BUSINESS	35-6	From high school business classes
ADVICE--PARENTS	36-1	Extent to which student discussed educational plans with parents. 1=Very often, 4=Not at all
ADVICE--COUNSELOR	36-2	Discussion with high school counselor
ADVICE--TEACHER	36-3	With high school teacher
ADVICE--SIBLING	36-4	With sister or brother
ADVICE--OTHER	36-5	With other adults
ADVICE--FRIENDS	36-6	With friends
ADVICE--CHURCH	36-7	With minister, priest or rabbi
FRIENDS--COLLEGE	37	Number of friends going to college. 1=All, 5=Very few
WHEN DECIDED ON SCHOOL	38	When student decided to attent college. 1=After his graduation, 6=Taken for granted
INFLUENCE-- PARENTS	39-1	Amount of influence of parents on college decision. 1=Much, 2=Little
INFLUENCE--COUNSELOR	39-2	Influence of counselors
INFLUENCE-- TEACHER	39-3	Influence of teachers
INFLUENCE--OTHERS	39-4	Influence of other adults
INFLUENCE-- PEERS	39-5	Influence of student's peers

TABLE 4-3 (Continued)

Variable Name	Item No.	Description of Variable
TIME--STUDYING	47	Hours spent each week studying. 1=0-3 hours, 7=19 plus hours
TIME--CLASSES	47	Hours spent in classes
TIME--EXTRA-CURRICULAR	48	Hours spent in extra-curricular activities
ROTTER SCORE	50	Score derived from 8 responses to modified Rotter scale
The following two scores were derived from the factoring of the responses to item 51 on the student's self-concept.		
EGO--WEAK	51	Feels useless, no good, am a failure, etc., responses +3, +5, +8, +9, +10, -7
EGO--STRONG	51	Feels of worth, do things well, etc., responses +1, +2, +4, +6
The following set of scores were derived from the set of responses to item 42, indicating why the student chose his particular school.		
WHY CHOSEN--COST	42-1	Chose school because of the low cost. Score is weight student assigned. 3=Most important, 2=2nd most important, 1=3rd most important, 0=Not selected
WHY CHOSEN--NEAR	42-2	Chose school because it was close
WHY CHOSEN--COURSES	42-3	Chosen because of particular courses
The following set of scores were derived from the factoring of the responses to item 52.		
AMITION--PERSONAL	52	Ambition important, people respect the person who shows ambition, etc., responses 1, 2, 4, 10
AMBITION--SOCIAL	52	Social behaviors should be chosen so that they enable you to get ahead, responses 3, 5, 6, 7, 8, 9

TABLE 4-4
Form C Variables

Variable Name	Item No.	Description of Variable
APPOINTMENT DIFFICULTY	34	Difficulty in making appointment with counselor, 1=Very easy, 3=Very difficult
APPOINTMENT LENGTH	35	Average length of counselor session, 1=Less than 15 minutes, 2=15 minutes or more
OCCUPATIONAL INFORMATION	40	Adequacy of occupation information from counselor, 0=Not adequate, 1=Adequate
ACADEMIC INFORMATION	41	Adequacy of academic information from counselor, 0=Not adequate, 1=Adequate
RATE--SCHOOL	43	Sum of 9 ratings of school's student personnel services, high score is favorable rating
RATE--TEACHER	46	Sum of 13 ratings of instructors, high score is favorable
RATE--COUNSELOR	36	Sum of 9 ratings of counselors, high score is favorable

The following 15 variables are scores derived from the factoring of the three sets of responses to item 33, on the nature of the problems the students have sought counseling for and have received help with. (See page for details of these analyses.)

NEED--PERSONAL HELP	33	Needed help with personal or social problems. Responses 12, 13, 14
SOUGHT--PERSONAL HELP	33	Sought help of counselor for personal problems, same responses as above
RECEIVED--PERSONAL HELP	33	Received help with personal problems
NEED--ACADEMIC HELP	33	Needed help with academic problems, getting off probation, study habits, etc. Responses 1, 2, 5, 7
SOUGHT--ACADEMIC HELP	33	Sought help for academic problems
RECEIVED--ACADEMIC HELP	33	Received help for academic problems
NEED--PLANNING HELP	33	Need help in making academic plans, career plans, responses 3, 4, 10, 11

TABLE 4-4 (Continued)

Variable Name	Item No.	Description of Variable
SOUGHT--PLANNING HELP	33	Sought planning help
RECEIVED--PLANNING HELP	33	Received planning help
NEED--CLASS SELECTION	33	Need help in selecting classes and instructors, responses 8, 9
SOUGHT--CLASS SELECTION	33	Sought help with class selection
RECEIVED--CLASS SELECTION	33	Received help with class selection
NEED--FINANCIAL HELP	33	Needed help with financial problems, responses 16, 17, 18
SOUGHT--FINANCIAL HELP	33	Sought counselor help for financial problems
RECEIVED--FINANCIAL HELP	33	Helped with financial problems

The following 6 factor type scores were derived from the factors obtained from the 19 self-rating responses to item 47.

SOCIAL SKILLS	47	Social, leadership skills, responses 5, 9, 10, 13, 15, 16
ACADEMIC	47	Academically related skills, responses 3, 12, 14, 17
ARTISTIC	47	Artistic and creative skills, responses 7, 18
MATH-MECHANICAL	47	Mathematic, mechanical and athletic skills, responses 1, 8, 17
MOTHER	47	Homemaking and child care skills, responses 6, 11

TABLE 4-4 (Continued)

Variable Name	Item No.	Description of Variable
CLERICAL	47	Homemaking and clerical ability, responses 2, 11
The following 7 factor type scores were derived from the factors obtained from the responses to item 42, in which the students indicated the type and severity of the problems that might hinder their academic progress.		
PROBLEM--BORED	42	College not interesting, wasting time, classes dull, responses 1, 4, 6, 14, 29
PROBLEM--TOO DIFFICULT	42	Not smart enough, courses too hard, responses 2, 5, 7, 28
PROBLEM--UNDECIDED	42	Undecided about school or career, responses 12, 25
PROBLEM--BUSY	42	Too busy, too much work, too many outside activities, responses 9, 22, 24
PROBLEM--INDIFFERENT	42	Don't like school, nothing else to do, responses 17, 20, 27
PROBLEM--BACKGROUND	42	Inadequate school background, responses 13, 16, 21
PROBLEM--OTHER	42	Other problems, transportation, money, parents, don't know the ropes, responses 3, 8, 11, 15

TABLE 4-5
Correlates Discriminating the Students'
Estimated College Grade Averages

Form	Predictor	B	Beta	F
A	HIGH SCHOOL GRADES	0.156	0.160	7.706
	AGE	-0.205	-0.272	18.431
	JOB-EXPECTED, SELF	-0.196	-0.123	4.546
	WORK-POOR GRADES	0.224	0.148	6.565
	STUDENT BENEFITS	-0.280	-0.134	5.351
	CREDIT COURSES	-0.448	-0.126	4.677
	FAMILY INCOME	-0.103	-0.116	3.487
	(Constant)	3.693		
R_2 = 0.401 R^2 = 0.161			F=7.092 df=7,259	
B	HIGH SCHOOL GRADES	0.274	0.271	24.848
	INFLUENCE-PARENTS	-0.261	-0.190	11.921
	EGO-STRONG	-0.051	-0.148	7.500
	JOB-MOTHER	-0.190	-0.118	4.388
	SCHOLARSHIP	0.285	0.094	2.620
	RACE	-0.451	-0.169	7.511
	SCHOOL PROGRAM	0.220	0.138	4.706
	TIME-STUDYING	-0.074	-0.103	3.493
	CURRENT MAJOR	-0.390	-0.171	7.536
	OBJECTIVE-TRANSFER	-0.299	-0.131	4.418
	BENEFIT-ATHLETICS	0.157	0.106	3.896
	(Constant)	3.822		
R_2 = 0.483 R^2 = 0.233			F=7.449 df=11,269	
C	PROBLEM-TOO DIFFICULT	0.088	0.159	5.922
	HIGH SCHOOL GRADES	0.171	0.163	8.290
	NEED-ACADEMIC HELP	0.211	0.210	12.849
	ACADEMIC SKILLS	-0.080	-0.176	7.656
	AGE	-0.117	-0.146	5.633
	EMPLOYED HRS/WK.	0.108	0.123	4.150
	REASON-NONE	0.143	0.100	3.118
	FRESH./SOPH.	-0.170	-0.093	2.830
	(Constant)	2.799		
R_2 = 0.553 R^2 = 0.305			F=12.913 df=8,235	

TABLE 4-6
Correlates Discriminating the Students' Degree of Certainty
About their Educational Goals

Form	Predictor	B	Beta	F
A	ANXIETY	0.057	0.188	9.992
	FRESH./SOPH.	-0.104	-0.139	5.495
	WORK-DROP OUT	0.223	0.138	5.404
	(Constant)	1.473		
R_2 = 0.277 R^2 = 0.077			F=7.296 df=3,263	
B	EGO-STRONG	-0.035	-0.234	16.418
	WHEN DECIDED ON SCHOOL	-0.037	-0.153	7.114
	REASON-NONE	0.080	0.136	5.608
	JOB-MOTHER	-0.094	-0.135	5.608
	CURRENT MAJOR	-0.140	-0.141	6.161
	BENEFIT-ATHLETICS	0.073	0.114	4.172
	(Constant)	2.163		
R_2 = 0.379 R^2 = 0.144			F= 7.664 df= 6,274	
C	PROBLEM-TOO DIFFICULT	0.509	0.216	9.398
	PROBLEM-UNDECIDED	0.062	0.175	7.761
	ACADEMIC SKILLS	-0.033	-0.171	6.589
	(Constant)	1.698		
R_2 = 0.422 R^2 = 0.178			F=12.321 df=3,240	

TABLE 4-7
Correlates Discriminating Students Who Were
Presently Attending the College of their Choice

Form	Predictor	B	Beta	F
A	MONEY-PROBLEM	-0.064	-0.161	6.671
	REASON FOR EMPLOYMENT	0.125	0.125	4.002
	(Constant)	0.803		
R_2 = 0.178 R^2 = 0.032			F=4.321 df=2,264	
B	CREDIT COURSES	0.188	0.143	5.935
	WHY CHOSEN-COURSES	0.042	0.135	5.345
	JOB-MOTHER	-0.067	-0.121	4.252
	(Constant)	0.707		
R_2 = 0.232 R^2 = 0.054			F=5.233 df=3,277	
C	PROBLEM-OTHER	-0.031	-0.160	6.507
	CURRENT MAJOR	0.115	0.158	6.467
	ACADEMIC INFORMATION	0.138	0.159	6.495
	OBJECTIVE-OTHER	-0.106	-0.109	3.122
	(Constant)	0.641		
R_2 = 0.315 R^2 = 0.099			F=6.592 df=4,239	

TABLE 4-8
Correlates Discriminating
the Importance of College to the Students

Form	Predictor	B	Beta	F
A	REASON-ENJOYMENT vs CAREER	0.114	0.248	19.331
	REASON-NONE	0.189	0.203	13.740
	IMPORTANCE, PARENTS	0.113	0.177	10.262
	OBJECTIVE-TRANSFER	-0.260	-0.169	9.167
	JOB-MOTHER	0.151	0.149	7.480
	COMPULSIVE-ORGANIZATION	-0.063	-0.111	4.093
	(Constant)	1.422		
R_2 = 0.489 R^2 = 0.240			F=13.646 df=6,260	
B	REASON-ENJOYMENT vs CAREER	0.090	0.190	12.738
	REASON-NONE	0.230	0.239	21.345
	IMPORTANCE, PARENTS	0.119	0.173	10.722
	JOB-EXPECTED, SELF	-0.188	-0.161	9.153
	SCIENTIFIC	-0.068	-0.128	6.258
	FULL/PART TIME	0.198	0.117	4.685
	AMBITION-PERSONAL	-0.025	-0.115	4.854
	OBJECTIVE-TRANSFER	-0.270	-0.168	7.575
	CURRENT MAJOR	-0.218	-0.135	5.100
	ORGANIZATIONS-SELF	-0.066	-0.083	2.622
	(Constant)	2.603		
R_2 = 0.561 R^2 = 0.315			F=12.410 df=10,270	
C	REASON-ENJOYMENT vs CAREER	0.109	0.237	18.468
	PROBLEM-INDIFFERENT	0.146	0.247	13.280
	IMPORTANCE, PARENTS	0.112	0.168	10.031
	OBJECTIVE-OTHER	0.299	0.142	6.858
	ACADEMIC SKILLS	-0.050	-0.163	8.483
	PROBLEM-OTHER	-0.051	-0.121	4.211
	PROBLEM-BORED	0.055	0.202	8.346
	JOB-EXPECTED, SELF	-0.140	-0.121	4.935
	PROBLEM-BACKGROUND	-0.054	-0.110	3.249
	FULL/PART TIME	0.195	0.121	4.812
	REASON-LIB ED vs SKILLS	0.038	0.091	2.904
	PROBLEM-BUSY	-0.046	-0.097	2.891
	(Constant)	2.119		
R_2 = 0.617 R^2 = 0.380			F=11.802 df=12,231	

TABLE 5-1
Correlates Discriminating Students Who Considered Their Occupational and Academic Counseling Information as Adequate

Criterion	Predictor	B	Beta	F
Occupational information	APPOINTMENT LENGTH	0.197	0.204	12.317
	PROBLEM-BORED	-0.028	-0.168	8.539
	APPOINTMENT DIFFICULTY	0.133	-0.170	8.919
	RECEIVED-PLANNING HELP	0.154	0.284	16.244
	NEED-PLANNING HELP	-0.097	-0.245	12.442
	REASON-LIB ED vs SKILLS	-0.032	-0.125	4.918
	RECEIVED-FINANCIAL HELP	0.127	0.125	4.764
	(Constant)	0.604		
R_2 = 0.512 R^2 = 0.262				F = 11.985 df = 7, 236
Academic information	APPOINTMENT DIFFICULTY	-0.133	-0.194	11.257
	RECEIVED-PLANNING HELP	1.163	0.343	16.338
	SOUGHT-PLANNING HELP	-0.109	-0.269	10.687
	APPOINTMENT LENGTH	0.136	0.161	7.382
	RECEIVED-CLASS SELECTION	0.099	0.145	5.812
	PROBLEM-BORED	-0.018	-0.123	4.398
	(Constant)	0.776		
R_2 = 0.477 R^2 = 0.227				F = 11.609 df = 6, 237

Table 5-2
Intercorrelations of Variables Indicating Satisfaction with Counseling Information and Need, Use and Helpfulness of Academic Planning Counseling

	Occupational information	Academic information	Need Plan	Seek Plan	Help Plan
Occupational information	1.000	0.641	-0.097	0.013	0.230
Academic information		1.000	-0.036	0.014	0.244
Need Plan			1.000	0.747	0.556
Seek Plan				1.000	0.216
Help Plan					1.000

TABLE 5-3
Correlates Discriminating Students' Ratings of Their Colleges' Student Personnel Services, Instructors and Counselors

Rating Criterion	Predictor	B	Beta	F
Student Personnel services	ACADEMIC INFORMATION	1.540	0.202	7.756
	PROBLEM-BORED	-0.191	-0.174	9.323
	APPOINTMENT DIFFICULTY	-0.950	-0.182	10.096
	OCCUPATIONAL INFORMATION	1.278	0.192	6.899
	ACADEMIC DEVELOPMENT	1.071	0.136	6.073
	(Constant)	17.733		
R = 0.529 R^2 = 0.279				F = 18.448 df = 5,238
Instructors	PROBLEM-BORED	-0.963	-0.340	33.227
	ACADEMIC INFORMATION	3.230	0.165	7.298
	SCHOOL PROGRAM	-1.436	-0.126	4.621
	APPOINTMENT DIFFICULTY	-1.575	-0.117	3.815
	(Constant)	57.564		
R_2 = 0.455 R^2 = 0.207				F = 15.570 df = 4,239
Counselors	OCCUPATIONAL INFORMATION	3.387	0.306	19.576
	ACADEMIC INFORMATION	2.493	0.197	8.139
	APPOINTMENT DIFFICULTY	-1.278	-0.147	7.369
	APPOINTMENT LENGTH	1.361	0.128	5.383
	RECEIVED-PERSONAL HELP	1.234	0.109	4.329
	MOTHER	0.322	0.102	3.785
	(Constant)	22.651		
R_2 = 0.598 R^2 = 0.357				F = 21.971 df = 6,237

TABLE 5-4
Correlates Discriminating the Students Who Reported Being Bored with College

Equation	Predictor	B	Beta	F
One	PROBLEM-INDIFFERENT	0.939	0.430	55.916
	PROBLEM-TOO DIFFICULT	0.256	0.188	12.547
	AUTHORITARIAN	-0.263	-0.131	7.302
	PROBLEM-BUSY	0.242	0.138	7.676
	PROBLEM-UNDECIDED	0.245	0.120	4.383
	(Constant)	1.416		
R_2 = 0.690 R^2 = 0.476				F = 43.265 df = 5, 238
Two	PROBLEM-INDIFFERENT	0.915	0.419	53.318
	PROBLEM-TOO DIFFICULT	0.181	0.133	5.012
	AUTHORITARIAN	-0.203	-0.101	4.219
	PROBLEM-BUSY	0.233	0.133	7.107
	PROBLEM-UNDECIDED	0.192	0.094	2.708
	AGE	-0.185	-0.093	3.499
	PROBLEM-BACKGROUND	0.181	0.100	3.109
	OBJECTIVE-OTHER	0.577	0.074	2.518
	CURRENT MAJOR	-0.430	-0.074	2.414
	(Constant)	2.188		
R_2 = 0.706 R^2 = 0.498				F = 25.820 df = 9, 234

TABLE 5-5
Correlates Discriminating Caucasion Versus Minority Students and Vocational Versus Academic Majors

Criterion	Predictor	B	Beta	F
Ethnic Background	NEED-FINANCIAL HELP	-0.147	-0.288	33.086
	RECEIVED-FINANCIAL HELP	0.132	0.145	8.291
	ACADEMIC INFORMATION	0.124	0.120	5.589
	RATE-COUNSELOR	-0.009	-0.114	5.044
	(Constant)	0.565		
R_2 = 0.290 R^2 = 0.084				F = 10.657 df = 4, 464
Current Major	NEED-PLANNING HELP	-0.085	-0.206	16.379
	NEED-CLASS SELECTION	-0.104	-0.159	10.191
	NEED-ACADEMIC HELP	0.052	0.122	5.869
	(Constant)	1.531		
R_2 = 0.270 R^2 = 0.073				F = 12.179 df = 3, 465

TABLE 6-1
Common and Form A Correlates Discriminating Sophomores from Freshman by Transfer Status and Objective

Analysis Group	Predictor	B	Beta	F
Transfer Major	AGE	0.069	0.199	9.264
	CERTAINTY OF GOALS	-0.146	0.145	4.892
	WORK-POOR GRADES	0.097	0.139	4.507
	(Constant)	0.487		
R_2 = 0.296 R^2 = 0.088				F = 6.978 df = 3,218
Transfer Objective	AGE	0.095	0.276	22.097
	WORK-POOR GRADES	0.096	0.138	5.540
	(Constant)	0.198		
R_2 = 0.321 R^2 = 0.103				F = 15.167 df = 2, 264
Professional Career Objective	AGE	0.069	0.199	7.152
	WORK-POOR GRADES	0.119	0.171	5.334
	SUPPORT-LOANS	0.152	0.164	4.917
	(Constant)	0.107		
R_2 = 0.311 R^2 = 0.097				F = 5.933 df = 3, 166

TABLE 6-2
Common and Form B Correlates Discriminating Sophomores from Freshman by Education Status

Analysis Group	Predictor	B	Beta	F
Transfer Major	CERTAINTY OF GOALS	-0.188	-0.184	7.126
	AMBITION-PERSONAL	-0.018	-0.137	3.932
	(Constant)	1.080		
R_2 = 0.228 R^2 = 0.052				F = 5.477 df = 2, 199
Transfer Objective	AMBITION-SOCIAL	-0.011	-0.142	4.968
	AGE	0.279	0.138	4.581
	(Constant)	0.566		
R_2 = 0.194 R^2 = 0.038				F = 4.598 df = 2, 236

TABLE 6-3
Common and Form C Correlates Discriminating Sophomores From Freshman by Educational Status and Career Expectations

Analysis Group	Predictor	B	Beta	F
Transfer Major	AGE	0.057	0.165	5.459
	SEX	-0.151	-0.149	4.435
	STRESS-ACADEMIC	0.177	0.141	3.970
	(Constant)	0.574		
R_2 = 0.251 R^2 = 0.063				F = 4.240 df = 3, 189
Transfer Objective	AGE	0.054	0.155	5.964
	RACE	0.149	0.128	4.042
	(Constant)	0.255		
R = 0.197 R^2 = 0.039				F = 4.833 df = 2,239
Professional Career Objective	MATH-MECHANICAL	0.043	0.188	5.587
	ACADEMIC INFORMATION	-0.237	-0.196	5.972
	RACE	0.197	0.168	4.380
	(Constant)	0.132		
R = 0.314 R^2 = 0.099				F = 5.179 df = 3, 142

TABLE 6-4
Correlates Discriminating Low Achieving Sophomores from Freshmen, by Survey Form

Survey Form	Predictor	B	Beta	F
A	SUPPORT-GI BILL	0.079	0.201	4.442
	AGE	0.069	0.200	4.368
	COMPULSIVE-ORGANIZATION	-0.076	-0.155	2.665
	JOB-MOTHER	0.100	0.150	2.507
	(Constant)	0.119		
R_2 = 0.341 R^2 = 0.116				F = 3.289 df = 4, 100
B	BENEFIT-BUSINESS	-0.170	-0.255	7.743
	TIME-EXTRA-CURRICULAR	0.062	0.215	5.499
	(Constant)	0.712		
R_2 = 0.334 R^2 = 0.111				F = 6.633 df = 2, 106
C	SEX	-0.223	-0.220	5.593
	REASON-LIB ED vs SKILL	0.058	0.215	5.684
	EMPLOYED HRS/WK	0.084	0.221	5.459
	PROBLEM-BUSY	-0.064	-0.208	5.137
	(Constant)	0.592		
R_2 = 0.427 R^2 = 0.182				F = 5.624 df = 4, 101

TABLE 6-5
Correlates Discriminating High Achieving Sophomores from Freshman, by Survey Form

Survey Form	Predictor	B	Beta	F
A	AGE	0.076	0.219	6.916
	CERTAINTY OF GOALS	-0.166	-0.165	4.051
	ORGANIZATIONS-MOTHER	-0.120	-0.231	6.884
	INTELLECTUAL-FATHER	0.077	0.181	4.265
	(Constant)	0.523		
R_2 = 0.383 R^2 = 0.146				F = 5.528 df = 4, 129
B	CERTAINTY OF GOALS	-0.265	-0.259	8.228
	(Constant)	0.863		
R_2 = 0.259 R^2 = 0.067				F = 8.228 df = 1, 114
C	AGE	0.053	0.154	2.480
	(Constant)	0.309		
R_2 = 0.154 R^2 = 0.024				F = 2.478 df = 1, 102

TABLE 6-6
Common and Form C Correlates Discriminating Sophomores from Freshman, by Their Reported Problems

Analysis Group	Predictor	B	Beta	F
Reported Personal/ Academic Problems	ORGANIZATIONS-MOTHER	0.156	0.301	7.556
	AGE	0.080	0.232	4.466
	OCCUPATIONAL INFORMATION	-0.351	-0.331	6.937
	RATE-COUNSELOR	-0.024	-0.248	3.963
	SCHOOL SES	0.148	0.185	2.951
	(Constant)	0.560		
R_2 = 0.462 R^2 = 0.214				F = 3.700 df = 5, 68
Did not Report Problems	AGE	0.062	0.179	5.629
	SEX	-0.156	-0.153	4.133
	ACADEMIC DEVELOPMENT	0.157	0.126	2.751
	(Constant)	0.563		
R_2 = 0.256 R^2 = 0.066				F = 3.863 df = 3, 165

TABLE 6-7
Theory Based Screening Procedures

CONTROLS: ETHNICITY - white
COLLEGE GRADES - low
EXPECTED JOB - professions
IMPORTANCE OF COLLEGE COMPLETION - very important

Variable Name	Index		Total Sample (No Control)	Matched Sample (Full Control)
OBJECTIVE-COURSES	65	Fresh.	0.266	0.057
		Soph.	0.153	0.120
OBJECTIVE-AA CERTIFICATE ONLY	64	Fresh.	0.158	0.121
		Soph.	0.152	0.008
REASON-ENJOYMENT vs CAREER	59	Fresh.	-0.962	-1.800
		Soph.	-1.097	-1.476
INTROSPECTIVE	58	Fresh.	1.328	1.543
		Soph.	1.435	1.572
REASON-NO REASON	55	Fresh.	0.341	0.071
		Soph.	0.318	0.156
COMPULSIVE-ORGANIZATION	48	Fresh.	2.097	2.129
		Soph.	1.993	1.844

TABLE 6-8
Theory Based Screening Procedures

CONTROLS: ETHNICITY - Black
COLLEGE GRADES - low
EXPECTED JOB - professions
IMPORTANCE OF COLLEGE COMPLETION - very important

Variable Name	Index		Total Sample (No Control)	Matched Sample (Full Control)
MOTHER ACTIVE IN ORGANIZATIONS	64	Fresh.	0.716	0.769
		Soph.	0.717	0.342
EDUCATION-MOTHER	63	Fresh.	2.944	2.605
		Soph.	2.863	2.189
THEORETICAL	60	Fresh.	2.883	3.513
		Soph.	2.809	3.079
REASON-LIBERAL EDUCATION VERSUS SKILLS	63	Fresh.	-0.759	0.256
		Soph.	-0.412	-0.158
SCIENTIFIC	58	Fresh.	2.758	3.564
		Soph.	2.882	3.000
COMPULSIVE-ORGANIZATION	58	Fresh.	2.097	2.205
		Soph.	1.993	1.710
ARTISTIC	56	Fresh.	0.969	1.205
		Soph.	0.933	0.947
EDUCATIONAL OBJECTIVE AA CERTIFICATE ONLY	54	Fresh.	0.158	0.051
		Soph.	0.152	0.000

TABLE 6-9
Correlates Discriminating Students Who Were Constant
in Their Educational Activities and Goals

Survey Form	Predictor	B	Beta	F
A	REASON FOR EMPLOYMENT	0.267	0.204	9.444
	ACADEMIC DEVELOPMENT	0.194	0.154	4.251
	CREDIT COURSES	0.299	0.184	7.660
	SUPPORT-SPOUSE	-0.103	-0.186	7.870
	PERSONAL-SOCIAL	0.240	0.165	4.809
	CERTAINTY OF GOALS	0.141	0.141	4.523
	(Constant)	-0.076		
R_2 = 0.465 R^2 = 0.217				F = 8.386 df = 6, 182
B	WHY CHOSEN-COURSES	-0.104	-0.261	12.375
	CREDIT COURSES	0.332	0.197	7.649
	ACADEMIC DEVELOPMENT	0.234	0.192	5.944
	AGE	-0.035	-0.172	5.758
	REASON-LIB ED vs SKILL	0.040	0.150	4.148
	JOB-MOTHER	-0.152	-0.214	7.102
	SCHOOL-SES	-0.129	-0.161	4.500
	JOB-FATHER	0.122	0.166	4.213
	(Constant)	0.717		
R_2 = 0.552 R^2 = 0.305				F = 7.620 df = 8, 139
C	AGE	-0.079	-0.230	9.762
	REASON-LIB ED vs SKILL	0.057	0.213	9.492
	JOB-MOTHER	0.203	0.285	10.381
	APPOINTMENT DIFFICULTY	-0.130	-0.157	5.180
	EDUCATION-MOTHER	-0.057	-0.192	4.467
	CREDIT COURSES	0.239	0.140	4.020
	PROBLEM-INDIFFERENCE	-0.071	-0.187	4.478
	PROBLEM-BORED	0.032	0.186	4.148
	PROBLEM-BACKGROUND	-0.035	-0.111	2.174
	(Constant)	0.596		
R_2 = 0.495 R^2 = 0.245				F = 5.794 df = 9, 161

APPENDIX B
TECHNICAL APPENDIX TO PA"T ONE

General Analysis

This first part of this technical appendix gives some additional detail on the procedures used in the general data analysis. These analyses began with the data as reorganized for the analyses of the marginal distributions reported on in Volume II. The second section of this appendix describes the data screening procedures developed during these analyses.

The principal technique used for the analyses reported on in Chapter 2, on the construction of factors and scales, was factor analysis. The factory analyses used as input matrices of Pearson product moment correlations. Prior to the computation of the correlations all variables to be used as independent variables were either rescaled to at least be ordinal or eliminated. In the factoring an initial principal component solution was derived, then a verimax procedure was used to obtain an orthogonal simplified solution. Only those components with roots greater than 1.0 were rotated. Factor type scores were derived from the rotated composites. These factor type scores were computed by using a unit weighting for each variable having a factor loading greater in absolute value than 0.50. This type of score is not an exact solution of the factor scores; however, these scores can be expected to be very highly correlated (greater than 0.90) with the exact solutions.

Guttman scaling procedures were also used in the analyses for chapter 2. However, none of these analyses yielded results that could be reported on. The remaining procedures for reorganizing the data in Chapter 2 were simple recategorizations based upon a priori and/or theoretical concerns that are obvious.

The analyses reported on in chapters 3 through 6 are based primarily on step-wise regression procedures. The programs used step-up procedures, adding an additional independent variable at each step. Where the dependent variable could not be considered as at least ordinal, that variable was dichotomized prior to the analyses. The regression procedures when used with dichotomized dependent variables yield coefficients which are proportional to the coefficients of the discriminant functions for the same data. The regression coefficients are reported on in these analyses.

Many of the regressions computed in the analyses use dummy variables in the set of independent measures. Dummy variables represent a recoding procedure which makes it possible to use categorical or nominal variables in techniques such as

regression that assume the variables to be interval in scale. In these analyses all such variables first were dichotomized, then one of the two classifications was given a value of "0" and the other classification was given the value of "1." These new values were then used in the regressions. The resulting regression coefficients for such dummy variables are interpretable much like the regression coefficients for interval level variables.

Variable Screening Procedures

This portion of the appendix describes in more detail the procedures for screening variables used in Chapter 6 in the examination of the factors related to student attrition. These procedures were developed in this study. The term "variable screening" is used in this description as a matter of convenience in referring to the techniques involved.

The effort in this and many other studies to examine the problem of student attrition in institutions of higher education implies a belief that there are some factors, traits, or characteristics, not yet recognized, which contribute positively or negatively to this phenomena. The longitudinal study is the most direct way of approaching an analysis designed to highlight such factors. In a community college setting, several samples of students can be observed and measured at several points in their periods of study in a sample of community colleges. The type of variables sought as explanatory of the problems of student attrition should be revealed in comparisons between the samples of students who are at different stages in their school careers. It is obvious that the samples of students completing two years of community college work would exhibit more of those characteristics promoting persistence in school and less of the factors contributing to dropping out than would the same cohort group measured at the beginning of their college work.

Some of the differences between the students who drop out and those who do not could not be expected to be of primary interest to the investigations. Differences in aptitude, sex, ethnicity, financial resources, and interests in school might be expected between those who do and those who do not drop out. Moreover, differences in such factors as these may tend to diffuse the difference between drop-outs and non-drop-outs on other variables that might be of more interest to the investigation. If there were a factor, say variable X, related to dropping out, then samples of drop-outs and non-drop-outs matched on ethnicity, financial resources, and aptitude should show more marked differences on variable X

than samples not so matched. Moreover, increasing the number of variables used in matching the freshman and sophomore samples should increase the differences between the samples in terms of variable X. In the extreme, if the samples of freshmen and sophomores are controlled for (matched on) all of these other characteristics, then all of the freshmen should have the X characteristic and none of the matched sample of sophomores should have the characteristic.

The major drawback in attempting to utilize this logic of matching lies in part in the obvious impossibility of being able to find samples that are matched on more than a few characteristics. With less than perfect matching any differences which may be revealed on a variable can be considered due to differences on the unmatched variables as well as due to the freshman/sophomore difference. The screening procedure used in this study attempts to utilize the logic of matching by looking for differences between sophomores and freshmen that magnified by increasing amounts of matching.

The procedure as applied in this report used four variables for matching: the grades of the students, the degree of importance they attached to completing college work, the ethnic identification of the student, and a final variable reflecting whether or not the student expected to enter a career requiring more than two years of college work. With these four variables used for matching, 15 differently matched samples could be defined. One sample used the total group; four samples were defined in terms of the students matched on one of the four variables, that is, one sample with only students having low grades; one sample with only white students; one sample containing only those students who said it was very important that they finish their college work; and a fourth sample with just those students who said they planned careers that require four years of college work. Six more samples were defined representing the subset of students matched on each of the different pairs of variables: students who had low grades and were white; students planning professional careers and having low grades, etc. In a similar way, four subsamples were defined in terms of the sets of students matched on three of the variables and a final sample with the subset of students matched on all four variables simultaneously.

Within each of these subsamples differences between the sophomores and the freshmen can be examined for each of the variables to be screened. Using the logic of matching any variable basically related to the dropping out should show a pattern of increased differences between the freshman and sophomore subsample as the degree of matching is increased. Thus a variable that is directly related to dropping out should be reflected by larger differences in those

subsamples matched on one characteristic than in the total sample. In a like manner, the difference between freshmen and sophomores matched on two variables should be larger than the difference observed in the subsample where only one or none of the two variables was used for matching. In this way 65 specific differences to be expected between the mean differences of subsamples would be predicted for the variable directly related to dropping out.

A computer program was developed that used the four controlling or matching variables to identify the 15 different subsamples, computed the mean difference between freshman and sophomore scores for each subsample, and computed an index indicating how many of the 65 differences in mean difference scores were in the predicted direction. Those variables that showed all or most differences in the predicted direction are reported on above.

Initial examination of runs using this screening program showed that there was a large sampling variance in the computed index. This would be expected since the results are based on mean differences of quite small subsamples where several matching variables are involved. To eliminate some of this sampling variability the compute program was elaborated to compute jackknifed values of the indices. The relative magnitude of the associated jackknifed index was the criterion for selecting the variables reported on. The jackknife technique (Mosteller and Tukey, 1968) involves dividing the original data into a number of subgroups and then computing the statistic for the total group and for subsamples that exclude each of the subgroups in turn. A set of pseudovalues of the statistic are then computed and the jackknifed value is the mean of the pseudovalues. The jackknifed value eliminates a substantial proportion of the sampling bias of the data.

Reference

Mosteller, F., & Tukey, J.W. Data analysis, including statistics. In G. Lindsey & E. Aronson (Eds.) Handbook of social psychology. (2nd Ed.) Reading, Mass.: Addison-Wesley, 1968.

PART TWO
CRITIQUE OF THE SURVEY QUESTIONNAIRE ITEMS

CRITIQUE OF THE SURVEY QUESTIONNAIRE ITEMS*

Each of the three student questionnaire forms was structured differently to obtain as extensive a data fund as possible. The first 32 questions were identical in all three forms, but the second section was unique to each. The common items questioned the students about their socioeconomic backgrounds, occupational plans, educational status, vocabulary power and personal traits related to their educational development. The latter part of Form A concerned students' marital status, religions, and financial and employment status; Form B covered students' educational background and status and additional questions about their personal traits and self-concepts; Form C questioned the students' perceptions of and information about their counselors and instructors and their own and their peers' skills, abilities and problems. The faculty and counselor questionnaires were standard for all respondents.

The most frequent problem, revealed in the cleaning and editing of data, was the respondents' inability to follow directions, resulting in inconsistent answers from one item to another. Reasons for this might have been a lack of clarity in the directions, complicated directions beyond the students' ability to comprehend, insufficient alternatives from which to choose, or structural difficulties on questions which allowed for only one possible answer when more than one could apply.

The items where inappropriate and inconsistent answers occurred follow, with explanations and suggested changes for improvement.

---

*The survey questionnaire, Forms A, B, & C (used in the study), are contained in Volume IIA: Technical Appendixes to Volume II.

ITEMS COMMON TO ALL
STUDENT QUESTIONNAIRES - FORMS A, B, C

Question 7	On this item the response choice "Does not apply" could be eliminated, since "Do not know" is sufficient.
Question 8	Additional occupational categories should be included such as musician, artist, and athlete since the choices did not cover all alternatives.
Questions 10 & 11	The directions for this item on employment status appear to have been confusing since many students checked "Not working" on question 10 and then, on question 11, checked the number of hours employed (perhaps from a previous job). The directions for question 11 should be modified to: "answer this question only if you are presently employed."
Question 16	The directions to this item should include an alternative for the student who had attended more than one school, thus having both semester and quarter units.
Question 17A	Many students, in indicating their major, answered both sections, "Transfer" and "Two year." This item would be less confusing if the question asked what type of program the student was taking, and was followed by a combined list from which the student could choose his current major.
Question 20-23	Question 20-23 confused some students, as they answered "No" on question 20 and then, instead of skipping to question 24, answered 21-23 as well. Some answered "Yes" on question 20 and skipped over question 21-23. Since questions 21-23 hinged on the answer to question 20, questions 21-23 should perhaps have been sub-sections of question 20. Example:

Do you plan to transfer from this institution?

1._____No 2._____Yes

Answer parts A, B, C only if you answered yes to question 20.

Question 21 — A choice of "None" or "I don't know" should have been provided.

Question 24 — The response choice "Does not apply" on part B is unnecessary since only those who answered "Yes" to part A were to answer part B.

Question 27 — Many students did not follow the rating directions for the first, second, and third most important reasons they entered their particular college. Although some information would be lost, the question would be clearer if it simply asked that the 3 most important reasons be checked. An alternative would be to list 3 columns of blanks labeled, "1st reason," "2nd reason," and "3rd reason."

Question 30 A & B — This question involved an either-or, yes-no statement of the student's characteristics. Probably because many of the characteristics were not felt so emphatically by the respondent, parts of the question were left out. Perhaps another choice between an absolute yes or no response would have allowed for a more realistic answer on particular items, and for less loss of information.

Question 32 — A vocabulary test on a mailed questionnaire may be considered of questionable validity due to the accessibility of a dictionary and assistance for the students' response. Also, 2 of the possible definition choices for the word "pristine" (earlier and primeval), were reasonably correct.

STUDENT QUESTIONNAIRE - FORM A

Question 34	Since marriage is not necessarily a condition for having children, the question should be worded, "How many children do you have?"
Question 40	Instructions to this question should remind students that the total percentage of sources of financial support should reach, but not exceed, 100, a fact which many students ignored.
Question 45	The given occupational categories did not include all major possibilities such as athlete, musician, artist, or other.

STUDENT QUESTIONNAIRE - FORM B

Question 39A	An additional category of "Other" was needed in part A to include those major influences not listed, including "self."
Question 42	See comments for question 27.
Question 49	Inclusion of this question was accidental, since it duplicates question 26.

STUDENT QUESTIONNAIRE - FORM C

General	A separate question, "Have you seen a counselor at this institution?" preceding this section would have cleared up some confusion about the intent of these items. Some students stated they had never tried to make an appointment with a counselor and also stated, "I've never seen my counselor" (question 35), but proceeded to rate their counselors in question 36. Perhaps they were rating a counselor from a previous school.

Question 37	A response choice "Other" seems to be necessary since "Does not apply" was sometimes checked after other questions about counselors were answered.
Questions 42, 46, 47, 49	These directions were probably too complicated or ambiguous for accurate responses, since approximately 16 percent of the respondents either did not answer or inappropriately answered these questions. A format similar to that of question 43 might have been preferable.

FACULTY QUESTIONNAIRE

Question 13	Other occupational categories should have been added to include alternatives such as musician, artist, athlete.
Questions 15 & 16	There was inconsistency of responses regarding degrees. Sometimes a respondent would specify an acquired degree in a major field on question 16 but fail to check that degree on question 15. Additionally, question 16 should have included the response category "Other."
Question 30	The intent of item 30 was to provide information on the extent to which faculty devote time to other jobs either within or outside the institution. With the present wording, there is some doubt as to whether the respondent was referring to jobs within the institution, outside of the institution, or both. Question 30A should have read, "Do you work additional hours for compensation at your institution beyond your regular working hours?" and 30C should have been worded, "Do you hold a job outside of this institution?"
Question 34	Many respondents did not follow the rating directions for the first, second, and third most important reasons

they chose their college. The question would have provided more accurate data by requesting the 3 most important reasons without the additional task of rating them.

Question 37 — Many respondents did not follow the directions for this item. Instead of indicating the number of years employed in different positions and in different schools, the respondents merely checked the item.

Question 38 — See comments for question 13 above.

Question 42 — See comments for question 34.

Question 44 — There seems to have been some difficulty in following directions on this item. The question asked for the respondents' 2 most important and 2 least important educational priorities. Some marked only one item while others marked all the items. This problem might be alleviated by asking the respondent to check the 2 most important and the 2 least important priorities under separate columns.

Question 46 — See comments for question 34.
Some respondents also misinterpreted the instructions by rating all the possibilities.

COUNSELOR QUESTIONNAIRE

No major difficulties appeared in the analysis of responses to this questionnaire.

PART THREE
PROTOTYPIC ITEMS FOR FUTURE JUNIOR COLLEGE SURVEYS

PROTOTYPIC ITEMS FOR FUTURE JUNIOR COLLEGE SURVEYS

In an attempt to devise a more reliable, systematic procedure for collecting data on community colleges, the original forms of The Study of Junior Colleges were revised on the basis of the following criteria:

1. The degree to which a variable differentiated among students or institutions in the cross tabulation analyses.
2. The contribution of a variable to variance in the multivariate analyses.
3. The clarity of the item, determined by the frequency of contradictory or ambiguous responses.
4. The sufficiency of response alternatives. (Some occupational goals, for example, were missing from the original list.)
5. The overall efficiency of the questionnaire in providing a comprehensive view of community college environments.

Based on these criteria, several items were altered, expanded, or deleted, and a few were added. In addition, questions were reordered to form a more logical sequence. The following questionnaires represent these revisions of the survey instrument for The Study of Junior Colleges.

STUDENT QUESTIONNAIRE ITEMS

(1) PERSONAL CHARACTERISTICS

1. WHAT IS THE NAME OF THE JUNIOR COLLEGE WHERE YOU ARE ENROLLED? _____...

2. WHAT WAS YOUR AGE AS OF SEPTEMBER 1, 1971?_____

3. WHAT IS YOUR SEX? 1. _____ Male 2. _____ Female

4. WHAT IS YOUR MARITAL STATUS?
   1. _____ Single
   2. _____ Married
   3. _____ Divorced or Separated
   4. _____ Widowed

5. HOW MANY CHILDREN DO YOU HAVE?
   1. _____ None
   2. _____ One
   3. _____ Two
   4. _____ Three
   5. _____ Four
   6. _____ Five or more

6. WITH WHOM DO YOU LIVE?
   1. _____ Parents
   2. _____ Guardian, relatives
   3. _____ Married (live with my spouse)
   4. _____ Friends or by myself
   5. _____ Dormitory, fraternity, sorority
   6. _____ Other (Please specify)

7. WHAT IS YOUR MILITARY STATUS?
   1. _____ Presently in active service
   2. _____ Veteran using G.I. Bill
   3. _____ Veteran but not using the G.I. Bill
   4. _____ Never served
   5. _____ Does not apply

8. WHAT IS YOUR RELIGIOUS AFFILIATION AND THAT OF YOUR PARENTS? (Please check each column; if your parents are deceased, indicate their religious affiliation when they were alive.)

	Self	Father	Mother
1. Catholic	____	____	____
2. Jewish	____	____	____
3. Protestant	____	____	____
4. None	____	____	____
5. Other (Please specify)	____	____	____
6. Does not apply	____	____	____

9. WHAT IS YOUR RACIAL OR ETHNIC GROUP?

1. _____ American Indian
2. _____ Caucasian/White
3. _____ Negro/Black
4. _____ Oriental
5. _____ Spanish surname: a. _____ Mexican American/Chicano
   b. _____ Puerto Rican
   c. _____ Other (Please specify)
6. _____ Other (Please specify)

10. (A) WAS A LANGUAGE OTHER THAN ENGLISH SPOKEN IN YOUR HOME DURING CHILDHOOD?

1. _____ No 2. _____ Yes

(B) IF YES, PLEASE SPECIFY WHAT LANGUAGE. _____

11. WHICH OF THE FOLLOWING BEST DESCRIBES THE COMMUNITY YOU CONSIDER TO BE YOUR HOME (a) WHILE YOU WERE IN HIGH SCHOOL, AND (b) AT PRESENT? (Please check each column.)

	(a) While in High School	(b) At Present
1. LARGE CITY (over 500,000)		
a. Within the city	____	____
b. In a suburb of the city	____	____
2. CITY (50,000 to 500,000)		
a. Within the city	____	____
b. In a suburb of the city	____	____
3. SMALL CITY OR TOWN (less than 50,000)	____	____
4. FARM OR OPEN COUNTRY	____	____

12. DO YOU EXPECT TO LIVE IN THIS COMMUNITY AFTER YOU FINISH YOUR STUDIES?

1. _____ Yes
2. _____ No

(2) SOCIOECONOMIC STATUS

13. WHAT IS YOUR ESTIMATE OF YOUR FAMILY'S INCOME WHEN YOU WERE 17 YEARS OLD?

1. _____ Less than $3,000
2. _____ $ 3,001 to $6,000
3. _____ $ 6,001 to $10,000
4. _____ $10,001 to $15,000
5. _____ $15,001 to $25,000
6. ____ Over $25,000

14. WHAT IS THE HIGHEST FORMAL EDUCATIONAL LEVEL ATTAINED BY BOTH YOUR MOTHER AND FATHER? (Please check each column once.)

	Father	Mother
1. 8th grade or less	____	____
2. Some high school	____	____
3. High school graduate	____	____
4. Vocational, technical or business schools beyond grade 12	____	____

	Father	Mother
5. Some college	_____	_____
6. Bachelor's degree	_____	_____
7. Some graduate work	_____	_____
8. Master's degree	_____	_____
9. Doctorate or professional degree	_____	_____
10. Do not know	_____	_____

15. PLEASE INDICATE THE OCCUPATIONAL CLASSIFICATION OF BOTH YOUR FATHER AND MOTHER WHEN YOU WERE 17 YEARS OLD. (If either of your parents were deceased when you were 17, mark their last occupation.)

PLEASE ALSO INDICATE WHAT YOU EXPECT YOUR OCCUPATIONAL CLASSIFICATION WILL BE.

	Father	Mother	Yourself
1. General worker (such as custodian, farm laborer, general and domestic laborer)	_____	_____	_____
2. Semi-skilled worker (such as machine operator, retail clerk, waitress, truck driver, mail carrier, barber)	_____	_____	_____
3. Skilled clerical or sales (such as bookkeeper, sales representative, secretary)	_____	_____	_____
4. Skilled craftsman or foreman (such as electrician, baker, carpenter, bricklayer, factory foreman)	_____	_____	_____
5. Protective service worker (such as policeman, military, fireman)	_____	_____	_____
6. Owner or manager of small business or firm (such as insurance - real estate agent, store proprietor, contractor)	_____	_____	_____
7. Farm owner or manager	_____	_____	_____
8. Semi-professional or technician (such as programmer, lab technician)	_____	_____	_____
9. Managerial and professional I (such as bank manager, public administrator, clergyman, school teacher, engineer certified public accountant)	_____	_____	_____

	Father	Mother	Yourself
10. Managerial and Professional II (such as physician, professor, lawyer)	_____	_____	_____
11. Housewife	_____	_____	_____
12. Unemployed	_____	_____	_____
13. Do not know	_____	_____	_____
14. Other	_____	_____	_____

16. PLEASE STATE SPECIFICALLY WHAT YOUR FATHER'S OCCUPATION WAS WHEN YOU WERE 17 YEARS OLD _____ .
PLEASE STATE WHAT YOUR MOTHER'S OCCUPATION WAS WHEN YOU WERE 17 YEARS OLD _____ .
NOW, PLEASE INDICATE AS SPECIFICALLY AS POSSIBLE WHAT YOU EXPECT YOUR OWN OCCUPATION WILL BE _____ .

17. HOW MANY BOOKS WERE IN YOUR HOME WHEN YOU WERE 17 YEARS OLD?
1. _____ 25 or less
2. _____ 26 - 50
3. _____ 51 - 100
4. _____ 101 - 250
5. _____ 251 or more

18. INDICATE WHETHER YOU OR YOUR PARENT ENGAGE IN ANY OF THE FOLLOWING ACTIVITIES. (Please check all that apply; check for Mother, Father, and self.)

	Mother	Father	Self
1. Read many books	_____	_____	_____
2. Read many magazines such as TIME, NEWSWEEK, LIFE, EBONY, Etc.	_____	_____	_____
3. Discuss politics frequently	_____	_____	_____
4. Read daily newspaper	_____	_____	_____
5. Active in professional or labor organizations	_____	_____	_____
6. Attend concerts, plays or art shows	_____	_____	_____
7. Participate in local politics	_____	_____	_____
8. Belong to a community organization	_____	_____	_____

	Mother	Father	Self
9. Voted in the last election	_____	_____	_____
10. Do volunteer work for a charitable organization	_____	_____	_____
11. Follow sports closely	_____	_____	_____
12. Usually watch TV news every night	_____	_____	_____
13. Frequently buy pop records	_____	_____	_____
14. Watch TV for entertainment almost every night	_____	_____	_____

(3) HIGH SCHOOL BACKGROUND

19. WHAT KIND OF PROGRAM DID YOU TAKE IN HIGH SCHOOL?

1. _____ College preparatory
2. _____ General
3. _____ Vocational arts
4. _____ Business
5. _____ Does not apply

(4) COLLEGE OBJECTIVES AND STATUS

20. WHEN DID YOU DECIDE TO GO TO COLLEGE?

1. _____ After I graduated from high school
2. _____ During my last year in high school
3. _____ During my junior year in high school
4. _____ During my sophomore year in high school
5. _____ Earlier than any of the above
6. _____ I always took it for granted
7. _____ I don't remember
8. _____ Other (Please specify_____)

21. APPROXIMATELY HOW MANY OF YOUR HIGH SCHOOL FRIENDS WENT TO COLLEGE?

1. _____ All, or nearly all
2. _____ Most
3. _____ About half
4. _____ Less than half
5. _____ Very few

22. WHAT ARE THE THREE MOST IMPORTANT REASONS WHY YOU ENTERED COLLEGE? (Please check your one most important reason in the first column; your second most important reason in the second column; and your third most important reason in the third column. Check only one reason in each column.

	First Most Important (check one)	Second Most Important (check one)	Third Most Important (check one)	
1.	_____	_____	_____	To obtain skills and training for a job
2.	_____	_____	_____	I didn't know what else to do
3.	_____	_____	_____	To enter a career ir business or a profession
4.	_____	_____	_____	To get married
5.	_____	_____	_____	To develop my knowledge and interest in community and world affairs
6.	_____	_____	_____	My family wanted me to
7.	_____	_____	_____	For the social life
8.	_____	_____	_____	To get a broad liberal education and appreciation of ideas
9.	_____	_____	_____	For the athletics
10.	_____	_____	_____	To take part in student government or activities
11.	_____	_____	_____	To be with my friends
12.	_____	_____	_____	My employer requested it
13.	_____	_____	_____	To make up some high school deficiencies
14.	_____	_____	_____	To take several courses for personal enjoyment and enrichment
15.	_____	_____	_____	Other (Please specify)

23. WHAT ARE THE THREE MOST IMPORTANT REASONS WHY YOU CHOSE THIS PARTICULAR COLLEGE. (Please check your one most important reason in the first column; your second most important reason in the second column; and your third reason in the third column. Check only one reason in each column.)

	First Most Important (check one)	Second Most Important (check one)	Third Most Important (check one)	
1.	_____	_____	_____	Low cost
2.	_____	_____	_____	Close to home
3.	_____	_____	_____	The particular courses I wanted were offered here
4.	_____	_____	_____	I hope to get my grades up and enter a four-year school
5.	_____	_____	_____	Lots of my friends are here
6	_____	_____	_____	A staff member of this college told me about it
7.	_____	_____	_____	Athletic program
8.	_____	_____	_____	Other extra curricular activities
9.	_____	_____	_____	The advice of a high school teacher or counselor
10.	_____	_____	_____	It's the only school in the area
11.	_____	_____	_____	I don't know what else to do; I don't really know why
12.	_____	_____	_____	It's the only school I could get into because my grades were low
13.	_____	_____	_____	It's the only school I could get into because other schools were full
14.	_____	_____	_____	Other (Please specify)

24. IF YOU COULD HAVE PICKED ANY COLLEGE YOU WANTED, WHAT KIND WOULD YOU HAVE CHOSEN?

1. _____ This school
2. _____ Another junior college
3. _____ A state college or university
4. _____ A private college or university
5. _____ Technical or business college
6. _____ Other (Please specify)

25. WHAT ARE YOUR EDUCATIONAL OBJECTIVES AT THIS INSTITUTION? (Please check as many as apply.)

1. _____ Earn an AA degree and transfer to a four-year school
2. _____ Complete two years and transfer without an AA degree
3. _____ Transfer before completing two years
4. _____ Earn an AA degree only
5. _____ Earn a vocational certificate only
6. _____ Take a group of courses to prepare for an occupation
7. _____ Take a few courses to improve my skills in my present occupation
8. _____ Take a few courses for personal enjoyment and enrichment
9. _____ Make up high school deficiencies
10. _____ Other (Please specify)

26. DO YOU PLAN TO TRANSFER FROM THIS INSTITUTION?

1. _____ No 2. _____ Yes

IF YES:

A. WHAT DEGREE DO YOU HOPE TO ATTAIN?

1. _____ Bachelor's
2. _____ Master's
3. _____ Ph.D. or professional degree (such as in law, medicine, etc.)
4. _____ None/I don't know
5. _____ Other (Please specify)

B. PLEASE INDICATE WHAT TYPE OF SCHOOL YOU ARE PLANNING TO ATTEND.

1. _____ Public junior college
2. _____ Private junior college
3. _____ Public teachers college
4. _____ Private teachers college
5. _____ Public four-year college
6. _____ Private four-year college
7. _____ Public university
8. _____ Private university
9. _____ Other (Please specify)
10. _____ Does not apply

C. WHEN DO YOU EXPECT TO TRANSFER?

1. _____ Next semester
2. _____ After one year
3. _____ After two years
4. _____ Undecided
5. _____ Does not apply

27. HOW CERTAIN DO YOU FEEL ABOUT ACHIEVING YOUR EDUCATIONAL GOALS?

1. _____ Certain
2. _____ I think I may make it, but it will be hard
3. _____ Doubtful
4. _____ Not likely

28. HOW IMPORTANT DO YOU THINK IT IS TO YOUR PARENTS THAT YOU FINISH COLLEGE?

1. _____ Very important
2. _____ Important
3. _____ Not too important
4. _____ Of little or no importance
5. _____ They haven't expressed a concern one way or another
6. _____ Does not apply

29. HOW IMPORTANT IS FINISHING COLLEGE TO YOU?

1. _____ Very important
2. _____ Important
3. _____ Not too important
4. _____ Of little or no importance

30. (A) IS THIS THE FIRST COLLEGE YOU HAVE ATTENDED?

1. _____ Yes
2. _____ No

(B) IF THIS IS NOT THE FIRST COLLEGE YOU HAVE ATTENDED, WHAT TYPE OF COLLEGE DID YOU FIRST ATTEND?

1. _____ Another junior college
2. _____ A public university or state college
3. _____ A private four-year college or university
4. _____ A private trade school or business college
5. _____ An extension center
6. _____ Does not apply

(C) IF YOU DID ATTEND ANOTHER COLLEGE AND DID NOT GRADUATE, PLEASE INDICATE THE REASONS WHY YOU DID NOT FINISH. (Check as many as apply.)

1. _____ Academic difficulties - poor grades
2. _____ Financial problems
3. _____ Moved from the area
4. _____ Military service (drafted or enlisted)
5. _____ The school did not offer the courses I wanted
6. _____ Illness or personal problems
7. _____ I lost interest in school
8. _____ I really didn't know what it was all about
9. _____ I wasn't clear about what I wanted to do
10. _____ Other
11. _____ Does not apply

31. IF YOU DROPPED OUT OF ANY OTHER COLLEGE, HOW LONG WERE YOU OUT OF SCHOOL?

1. _____ 1 semester or quarter
2. _____ 1 year
3. _____ 2 years
4. _____ 3 - 5 years
5. _____ Over 5 years
6. _____ Does not apply

32. (A) HAVE YOU EVER WITHDRAWN FROM THE COLLEGE YOU ARE NOW ATTENDING?

1. _____ Yes
2. _____ No

(B) IF YES, WHY DID YOU WITHDRAW?

1. _____ Academic difficulties
2. _____ Financial problems
3. _____ Moved from the area
4. _____ Military service (drafted or enlisted)
5. _____ The school did not offer the courses I wanted
6. _____ Illness or personal problems
7. _____ I lost interes. in school
8. _____ Other (Please specify)
9. _____ Does not apply

(C) IF YOU WITHDREW FROM THIS COLLEGE AT ANY TIME, HOW LONG WERE YOU OUT OF SCHOOL?

1. _____ 1 semester or quarter
2. _____ 1 year
3. _____ 2 years
4. _____ 3 - 5 vears
5. _____ Over 5 years
6. _____ Does not apply

33. IF YOU HAVE EVER WITHDRAWN FROM COLLEGE WHAT WERE YOUR REASONS FOR RETURNING?_____.....

34. (A) IS YOUR INSTITUTION ON THE QUARTER OR SEMESTER SYSTEM?

1. _____ Semester
2. _____ Quarter

(B) HOW MANY TERMS (SEMESTERS OR QUARTERS) HAVE YOU ATTENDED THIS COLLEGE? (Exclude summer sessions, unless they were regular term.)

1. _____ One
2. _____ Two
3. _____ Three
4. _____ Four
5. _____ Five
6. _____ Six
7. _____ Seven
8. _____ Eight or more

35. WHAT IS YOUR CURRENT ENROLLMENT CLASSIFICATION? (Please check as many as apply.)

1. _____ Enrolled in regular credit classes
2. _____ Enrolled in adult education classes
3. _____ Enrolled in non-credit classes
4. _____ Other (Please specify)
5. _____ Do not know

36. ARE YOU A FULL-TIME OR PART-TIME STUDENT? (Full-time represents at least 9 semester units or 12 quarter units.)

1. _____ Full-time student
2. _____ Part-time student

37. WHEN ARE YOUR CLASSES SCHEDULED?

1. _____ Days only
2. _____ Nights only (after 4:00 p.m.)
3. _____ Both day and night

38. WHAT IS YOUR PRESENT CLASS LEVEL?

1. _____ Beginning freshman
2. _____ Upper freshman
3. _____ Beginning sophomore
4. _____ Upper sophomore

39. HOW MANY COLLEGE UNITS HAVE YOU COMPLETED? (Please check both semester and quarter units, if applicable.)

	Semester units	Quarter units
1. 15 or under	_____	_____
2. 16 - 30	_____	_____
3. 31 - 45	_____	_____
4. 46 - 60	_____	_____
5. 61 - 100	_____	_____
6. Over 100	_____	_____

40. HAVE YOU EARNED A DEGREE OR POST-HIGH SCHOOL CERTIFICATE?

1. _____ No
2. _____ Yes, a certificate
3. _____ Yes, an Associate of Arts degree
4. _____ Yes, a Bachelor's degree
5. _____ Yes, a graduate degree

41. WHAT IS YOUR HIGH SCHOOL AND COLLEGE GRADE POINT AVERAGE? (Please place a check in the column next to the letter which represents your high school grade point average and also your college grade point average if you have completed at least one full semester or quarter.)

	High School grade point average	College grade point average (before current term)
1. A	_____	_____
2. B	_____	_____
3. C+	_____	_____
4. C	_____	_____
5. C-	_____	_____
6. D or below	_____	_____
7. Does not apply	_____	_____

42. IN WHAT PROGRAM ARE YOU PRIMARILY ENROLLED? (Check one)

1. _____ Transfer (leading to a bachelor's degree)
2. _____ General (not leading to a bachelor's degree)
3. _____ Occupational (not leading to a bachelor's degree)
4. _____ Other (Please specify)

43. WHAT IS YOUR CURRENT MAJOR? (Below is a list of majors grouped by subject areas. Please check the one that best describes your current major.

LETTERS AND SCIENCES

1. _____ General liberal arts

SOCIAL SCIENCES

2. _____ Psychology, Sociology, Anthropology
3. _____ History, Political Science, Economics
4. _____ Afro-American (black culture) studies
5. _____ Mexican-American studies
6. _____ Other Social Sciences

SCIENCES (NON-MEDICAL) AND MATHEMATICS

7. _____ Biological Sciences
8. _____ Mathematics
9. _____ Physics
10. _____ Chemistry
11. _____ Earth Sciences
12. _____ Other Physical Sciences

HUMANITIES AND LANGUAGES

13. _____ Foreign languages
14. _____ English
15. _____ Speech
16. _____ Philosophy
17. _____ Other humanities

FINE ARTS

18. _____ Art
19. _____ Music
20. _____ Drama
21. _____ Other fine arts

COMMERCIAL ARTS

22. _____ Art, photography, clothing design, journalism
23. _____ Other

BUSINESS

24. _____ Management, accounting
25. _____ Marketing, sales
26. _____ Secretarial
27. _____ Data processing
28. _____ Other business

HEALTH SERVICES

29. _____ Registered nursing
30. _____ Vocational nursing
31. _____ Medical-dental assisting
32. _____ Medical technicians (Lab Tech., X-ray, etc.)
33. _____ Other medical

MEDICAL PROFESSIONS

34. _____ Nursing (4 years)
35. _____ Dentistry
36. _____ Medicine (M.D.)
37. _____ Optometry, Pharmacy, Pre-vet.
38. _____ Other medical (4 years)

AGRICULTURE AND NATURAL RESOURCES

39. _____ Agriculture
40. _____ Animal sciences
41. _____ Forestry and other natural resources (fish and game management, etc.)
42. _____ Environmental studies

EDUCATION

43. _____ Elementary
44. _____ Physical education
45. _____ Business education
46. _____ Vocational education
47. _____ Other (i.e., special education)

PUBLIC PERSONAL SERVICES

48. _____ Police science
49. _____ Fire science
50. _____ Cosmetology
51. _____ Teacher aide, nursery school education, social welfare aide
52. _____ Home economics
53. _____ Airline stewardess
54. _____ Other

OTHER PROFESSIONAL AREAS

55. _____ Architecture, urban planning, etc.
56. _____ Business administration, accounting, etc.
57. _____ Computer sciences
58. _____ Engineering
59. _____ Home economics, nutrition, etc.
60. _____ Law
61. _____ Law enforcement, corrections, criminology
62. _____ Other (Journalism, Library Science, Religion, etc.)

TECHNICAL

63. _____ Aeronautics, aviation
64. _____ Automotive repair
65. _____ Building trades (including refrigeration, heating, plumbing air conditioning)
66. _____ Drafting tool design
67. _____ Engineering Aide: Civil, mechanical, surveying, chemical
68. _____ Electronics and appliance repair
69. _____ Industrial management
70. _____ Food services, restaurant management
71. _____ Mechanical (machine shop, welding)
72. _____ Printing - lithographics
73. _____ Metal - metallurgy, plastics, sheet metal

74. _____ Textiles - upholstering, sewing, garment manufacturing

75. _____ Other (Please specify)

UNDECIDED IN ANY AREA

76. _____ Undecided

IF YOU HAVE CHANGED YOUR MAJOR ONE OR MORE TIMES, WHAT WAS YOUR FIRST MAJOR? (Please write the major and its number selected from the above list.)

First major: _____

44. ARE YOU ENROLLED IN YOUR CURRENT MAJOR AS PREPARATION FOR A PARTICULAR OCCUPATION?

1. _____ Yes 2. _____ No 3. _____ I don't know

A. IF YES, IS THE OCCUPATION FOR WHICH YOU ARE NOW PREPARING THE SAME ONE WHICH YOU HOPE EVENTUALLY TO ACHIEVE?

1. _____ Yes 2. _____ No 3. _____ I don't know

B. IF NO, DO YOU EXPECT TO RETURN TO SCHOOL AT SOME LATER DATE TO STUDY FOR A DIFFERENT OCCUPATION?

1. _____ Yes 2. _____ No 3. _____ I don't know

45. (A) ARE YOU NOW ENROLLED IN REMEDIAL COURSES OR DEVELOPMENTAL STUDIES?

1. _____ Yes 2 _____ No

(B) IF YES, IN WHICH COURSES ARE YOU NOW ENROLLED?

1. _____ English
2. _____ Mathematics
3. _____ Other (Please specify)

(C) IF YOU HAVE COMPLETED ANY REMEDIAL COURSES OR DEVELOPMENTAL STUDIES, DID YOU EARN A "C" OR BETTER? (Please check for each course.)

	Yes	No	Does not apply
1. English	_____	_____	_____
2. Mathematics	_____	_____	_____
3. Other (Please specify)	_____	_____	_____

46. HOW MANY HOURS DO YOU SPEND EACH WEEK IN CLASS, STUDYING OUTSIDE OF CLASS, AND IN EXTRA CURRICULAR ACTIVITIES? (Please check each column.)

	In class	Studying	In extra-curricular activities
1. 0 - 3 hours	____	____	____
2. 4 - 6 hours	____	____	____
3. 7 - 9 hours	____	____	____
4. 10 - 12 hours	____	____	____
5. 13 - 15 hours	____	____	____
6. 16 - 18 hours	____	____	____
7. 19 or more hours	____	____	____

47. HOW MUCH DID YOU PARTICIPATE IN VARIOUS ACTIVITIES IN HIGH SCHOOL AND CURRENTLY, IN COLLEGE? (Please mark the extent of your participation in each type of activity listed below.)

	IN HIGH SCHOOL			IN COLLEGE		
	Very Much	Some	Little/ None	Very Much	Some	Little/ None
	1	2	3	1	2	3
1. Sports	____	____	____	____	____	____
2. Publications	____	____	____	____	____	____
3. Debate	____	____	____	____	____	____
4. Music, Art, Drama Activities	____	____	____	____	____	____
5. Student government	____	____	____	____	____	____
6. Religious groups	____	____	____	____	____	____
7. Social groups fraternities, etc.	____	____	____	____	____	____
8. Political groups	____	____	____	____	____	____
9. Other Academic groups or clubs related to your school work	____	____	____	____	____	____

(5) EVALUATION OF INSTRUCTION AND COUNSELING

48. HAVE YOU TALKED TO AN INSTRUCTOR OUTSIDE OF CLASS ABOUT YOUR ACADEMIC EXPERIENCES IN THE LAST TWO WEEKS?

1. _____ None; I didn't try
2. _____ None; I tried, but the instructor was not available
3. _____ Once
4. _____ Twice
5. _____ Three times
6. _____ Four times
7. _____ Five or more times

49. PLEASE INDICATE TO WHAT EXTENT YOU FEEL THE STATEMENTS DESCRIBE THE INSTRUCTORS YOU HAVE HAD AT THIS COLLEGE. (Below please check the appropriate column for each statement.)

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1. Are usually well prepared	___	___	___	___	___
2. Use examples and illustration that make material clearer to me	___	___	___	___	___
3. Seem to be interested in teaching	___	___	___	___	___
4. Seem to be interested in students	___	___	___	___	___
5. Usually hold my attention	___	___	___	___	___
6. Organize their courses well	___	___	___	___	___
7. Grade fairly	___	___	___	___	___
8. Encourage students to express their opinions	___	___	___	___	___
9. Are intellectually stimulating (they cause you to think)	___	___	___	___	___
10. Make assignments clear	___	___	___	___	___

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
11. Know their subject well	___	___	___	___	___
12. Require a reasonable amount of work	___	___	___	___	___
13. Are easy to talk to outside of class	___	___	___	___	___

50. HAVE YOU EVER SEEN A COUNSELOR AT THIS INSTITUTION?

1. _____ Yes
2. _____ No

51. IF YOU ARE A FIRST SEMESTER STUDENT INDICATE THE ACTUAL NUMBER OF TIMES YOU HAVE SEEN A COUNSELOR THIS TERM. _____

52. IS AN APPOINTMENT WITH A COUNSELOR REQUIRED AT YOUR COLLEGE:

WHEN YOU ENTER? _____ YES _____ NO

EACH TERM? _____ YES _____ NO

53. IF YOU ARE A CONTINUING STUDENT HOW MANY TALKS OR SCHEDULED INTERVIEWS DO YOU HAVE WITH YOUR COUNSELOR DURING A SEMESTER?

1. _____ None
2. _____ 1
3. _____ 2 to 4
4. _____ 5 or more
5. _____ Does not apply

54. HOW LONG IS YOUR AVERAGE SESSION WITH YOUR COUNSELOR?

1. _____ Less than 15 minutes
2. _____ Between 15 to 30 minutes
3. _____ Between 30 to 60 minutes
4. _____ I've never seen my counselor

55. HAS YOUR COUNSELOR GIVEN YOU ACCURATE INFORMATION ABOUT YOUR ACADEMIC PROGRAM?

1. _____ Yes
2. _____ No
3. _____ I don't know
4. _____ Does not apply

56. HAS YOUR COUNSELOR GIVEN YOU ADEQUATE INFORMATION ABOUT CAREERS AND OCCUPATIONS?

1. _____ Yes
2. _____ No
3. _____ I don't know
4. _____ Does not apply

57. BELOW IS A LIST OF PROBLEMS COLLEGE STUDENTS SOMETIMES HAVE. IN THE FIRST COLUMN, PLEASE CHECK EACH PROBLEM FOR WHICH YOU HAVE AT SOME TIME NEEDED HELP. WHERE YOU HAVE CHECKED A PROBLEM, INDICATE IN THE SECOND COLUMN IF YOU TALKED TO A COUNSELOR (not a faculty advisor) ABOUT THAT PROBLEM. CHECK THE LAST COLUMN ONLY IF YOU FEEL THE COUNSELOR WAS HELPFUL WITH THAT PROBLEM.

	Needed Help	Talked to Counselor	Counselor Was Helpful
1. The meaning of my test scores	____	____	____
2. Improving my grades	____	____	____
3. Changing my major	____	____	____
4. Changing my occupational plans	____	____	____
5. Improving my study habits	____	____	____
6. Staying in school	____	____	____
7. Getting off academic problems	____	____	____
8. Selecting good classes	____	____	____
9. Selecting good instructors	____	____	____
10. Selecting a transfer college	____	____	____
11. Future educational plans	____	____	____
12. Personal or social problems	____	____	____
13. Problems with family	____	____	____
14. Understanding myself better	____	____	____
15. Understanding the rules and procedure of the college	____	____	____
16. Obtaining employment while in college	____	____	____
17. Finding employment after finishing my studies	____	____	____
18. Obtaining financial aid	____	____	____

58. IN YOUR OPINION, BASED ON WHAT YOU THINK IS DESIRABLE, WHAT ARE THE STRENGTHS AND WEAKNESSES OF YOUR COLLEGE'S STUDENT PERSONNEL SERVICES? (Please check each appropriate item.)

	Strong	Average	Weak	Opinion
1. Admissions and registration	____	____	____	____
2. Records and information	____	____	____	____
3. Guidance and academic counseling	____	____	____	____
4. Guidance and vocational counseling	____	____	____	____
5. Placement for work	____	____	____	____
6. Financial aids	____	____	____	____
7. Student activities	____	____	____	____
8. Special counseling for disadvantaged students	____	____	____	____
9. Special counseling for students with academic problems	____	____	____	____

(7) PERSONAL TRAITS AND ATTITUDES

VOCABULARY

59. THIS VOCABULARY "TEST" IS DESIGNED TO PROVIDE INFORMATION ON THE WORD POWER OF COLLEGE STUDENTS. SOME OF THE WORDS ARE VERY DIFFICULT. ONLY A FEW PEOPLE CAN DEFINE ALL OF THEM CORRECTLY, SO DO NOT BE SURPRISED IF SOME OR MANY OF THEM ARE UNFAMILIAR TO YOU. THE WORDS TO BE DEFINED ARE PRINTED IN CAPITAL LETTERS. UNDERNEATH EACH OF THESE CAPITALIZED WORDS, LOOK FOR A WORD THAT COMES CLOSEST TO THE SAME MEANING AND FILL IN THE LINE IN FRONT OF THAT WORD. DO NOT CONSULT A DICTIONARY:

SPACE	LIFT	CONCERN
1. _____ school	1. _____ sort out	1. _____ see clearly
2. _____ noon	2. _____ raise	2. _____ engage
3. _____ captain	3. _____ value	3. _____ furnish
4. _____ board	4 _____ enjoy	4. _____ disturb
5. _____ room	5. _____ fancy	5. _____ have to do with

BROADEN

1. _____ efface
2. _____ make level
3. _____ elapse
4. _____ embroider
5. _____ widen

CHIRRUP

1. _____ aspen
2. _____ joyful
3. _____ capsize
4. _____ chirp
5. _____ incite

SOLICITOR

1. _____ lawyer
2. _____ chieftain
3. _____ watchman
4. _____ maggot
5. _____ constable

ANIMOSITY

1. _____ hatred
2. _____ animation
3. _____ disobedience
4. _____ diversity
5. _____ friendship

CLOISTERED

1. _____ miniature
2. _____ bunched
3. _____ arched
4. _____ malady
5. _____ secluded

BLUNT

1. _____ dull
2. _____ drowsy
3. _____ deaf
4. _____ doubtful
5. _____ ugly

EDIBLE

1. _____ suspicious
2. _____ eligible
3. _____ fit to eat
4. _____ sagacious
5. _____ able to speak

ALLUSION

1. _____ aria
2. _____ illusion
3. _____ eulogy
4. _____ dream
5. _____ reference

EMANATE

1. _____ populate
2. _____ free
3. _____ prominent
4. _____ rival
5. _____ come

ENCOMIUM

1. _____ repetition
2. _____ friend
3. _____ panegyric
4. _____ abrasion
5. _____ expulsion

ACCUSTOM

1. _____ disappoint
2. _____ customary
3. _____ encounter
4. _____ get used
5. _____ business

PACT

1. _____ puissance
2. _____ remonstrance
3. _____ agreement
4. _____ skillet
5. _____ pressure

CAPRICE

1. _____ value
2. _____ a star
3. _____ grimace
4. _____ whim
5. _____ inducement

MADRIGAL

1. _____ song
2. _____ mountebank
3. _____ lunatic
4. _____ ribald
5. _____ sycophant

PRISTINE

1. _____ flashing
2. _____ earlier
3. _____ primeval
4. _____ bound
5. _____ green

TACTILITY	SEDULOUS
1. _____ tangibility	1. _____ muddied
2. _____ grace	2. _____ sluggish
3. _____ subtlety	3. _____ stupid
4. _____ extensibility	4. _____ assiduous
5. _____ manageableness	5. _____ corrupting

60. (A) WE ALL HAVE DIFFERENT PREFERENCES AND PERSONAL CHARACTERISTICS. WE WOULD LIKE TO KNOW MORE ABOUT THE RELATIONSHIP OF DIFFERENT CHOICES AND TRAITS TO IMPORTANT COLLEGE AND SUBSEQUENT CAREER EXPERIENCES. (Please mark "yes" for all the items you generally like.)

I generally like:	Yes	No
1. Unquestioning obedience	_____	_____
2. Strict law enforcement	_____	_____
3. The tried and true	_____	_____
4. Determination and ambition	_____	_____
5. Strong family ties	_____	_____
6. Unwavering patriotism	_____	_____
7. Perfect balance in composition	_____	_____
8. Novel experiences	_____	_____
9. Predictable outcomes to problems	_____	_____
10. Original work	_____	_____
11. A set schedule of activities	_____	_____
12. A proper place for everything	_____	_____
13. The one right answer to questions	_____	_____
14. Friends without complex problems	_____	_____
15. Straight-forward reasoning	_____	_____
16. Dealing with new or strange ideas	_____	_____
17. The perfectly completed object	_____	_____
18. Quick unhesitating decisions	_____	_____
19. Original research work	_____	_____
20. To draw my own conclusions	_____	_____
21. Solving long, complex problems	_____	_____
22. Critical consideration of theories	_____	_____
23. Science and mathematics	_____	_____

	Yes	No
24. Contemplating the future of society	____	____
25. Men interested in ideas	____	____
26. Discovering how things work	____	____
27. Scientific displays	____	____
28. Detecting faulty reasoning	____	____

(B) (Please mark "yes" for those adjectives that you think are generally descriptive of you; mark "no" for those that are not.)

I generally like:	Yes	No
1. Well-organized	____	____
2. Practical	____	____
3. Individualistic	____	____
4. Questioning	____	____
5. Predictable	____	____
6. Open-minded	____	____
7. Introspective	____	____
8. Experimental	____	____
9. Creative	____	____
10. Undistracted	____	____
11. Analytical	____	____
12. Critical-minded	____	____
13. Scientific	____	____
14. Sociable	____	____
15. Contemplative	____	____
16. Dutiful	____	____
17. Determined	____	____
18. Conventional	____	____
19. Unrestrained	____	____
20. Adaptable	____	____
21. Permissive	____	____
22. Worried	____	____
23. Happy	____	____
24. Calm	____	____
25. Self-confident	____	____
26. Nervous	____	____
27. Anxious	____	____
28. Restless	____	____

61. PEOPLE HAVE MANY DIFFERENT PERCEPTIONS OF LIFE, WHICH ARE RELATED TO THE EDUCATIONAL PROCESS IN A NUMBER OF IMPORTANT WAYS. THE FOLLOWING BRIEF SECTION ASKS ABOUT YOUR PERCEPTIONS. (Below are paired statements. For each pair, check "a" or "b" for that statement which more closely reflects your own feelings. Please check one statement for each item.)

1. a. _____ In the case of the well prepared student, there is rarely if ever such a thing as an unfair test.

   b. _____ Many times exam questions tend to be so unrelated to course work that studying is really useless.

2. a. _____ Becoming a success is a matter of hard work; luck has little or nothing to do with it.

   b. _____ Getting a good job depends mainly on being in the right place at the right time.

3. a. _____ People who don't do well in life often work hard, but the breaks just don't come their way.

   b. _____ Some people just don't use the breaks that come their way. If they don't do well, it's their own fault.

4. a. _____ People are lonely because they don't try to be friendly.

   b. _____ There's not much use in trying too hard to please people. If they like you, they like you.

5. a. _____ I have often found that what is going to happen will happen.

   b. _____ Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

6. a. _____ What happens to me is my own doing.

   b. _____ Sometimes I feel that I don't have enough control over the direction my life is taking.

7. a. _____ In my case, getting what I want has little or nothing to do with luck.

   b. _____ Many times we might just as well decide what to do by flipping a coin.

8. a. _____ Many times I feel that I have little influence over the things that happen to me.

   b. _____ It is impossible for me to believe that chance or luck play an important role in my life.

62. PEOPLE FEEL DIFFERENTLY ABOUT THEMSELVES AT DIFFERENT TIMES. PLEASE ANSWER THESE STATEMENTS IN TERMS OF THE WAY YOU USUALLY FEEL ABOUT YOURSELF.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I feel that I'm a person of worth, at least on an equal plane with others.	_____	_____	_____	_____
2. I feel that I have a number of good qualities.	_____	_____	_____	_____
3. All in all, I am inclined to feel that I am a failure.	_____	_____	_____	_____
4. I am able to do things as well as most other people.	_____	_____	_____	_____
5. I feel I do not have much to be proud of.	_____	_____	_____	_____
6. I take a positive attitude	_____	_____	_____	_____
7. On the whole, I am satisfied with myself.	_____	_____	_____	_____
8. I wish I could have more respect for myself.	_____	_____	_____	_____
9. I certainly feel useless at times.	_____	_____	_____	_____
10. At times I think I am no good at all.	_____	_____	_____	_____

63. PLEASE INDICATE HOW YOU FEEL ABOUT EACH STATEMENT BELOW. (Please check the appropriate column for each statement.)

	Strongly Agree	Agree	Slightly Agree	Strongly Disagree	Disagree	Slightly Disagree
1. The extent of a man's ambition to better himself is a pretty good indication of his character.	___	___	___	___	___	___
2. In order to merit the respect of others, a person should show the desire to better himself.	___	___	___	___	___	___
3. One of the things you should consider in choosing your friends is whether they can help you make your way in the world.	___	___	___	___	___	___
4. Ambition is the most important factor in determining success in life.	___	___	___	___	___	___
5. One should always try to live in a highly respectable residential area, even though it entails sacrifices.	___	___	___	___	___	___
6. Before joining any civic or political association, it is usually important to find out whether it has the backing of people who have achieved a respected social position.	___	___	___	___	___	___
7. Possession of proper social etiquette is usually the mark of a desirable person.	___	___	___	___	___	___
8. The raising of one's social position is one of the more important goals in life.	___	___	___	___	___	___
9. It is worth considerable effort to assure one's self of a good name with the right kind of people.	___	___	___	___	___	___
10. An ambitious person can almost always achieve his goals.	___	___	___	___	___	___

(8) FINANCIAL STATUS

64. PLEASE INDICATE, BY WRITING IN THE APPROXIMATE PERCENTAGE, HOW MUCH FINANCIAL SUPPORT FOR YOUR EDUCATION YOU RECEIVE FROM THE FOLLOWING SOURCES. (Total should equal 100%)

1. _____ My own savings
2. _____ My own income
3. _____ Family support (by providing room and board)
4. _____ Family support (other than room and board)
5. _____ Spouse
6. _____ Scholarship (please specify)
7. _____ Loan (please specify)
8. _____ G.I. Bill
9. _____ Other government benefits (please specify)
10. _____ Other (please specify)

65. TO WHAT EXTENT ARE FINANCES A PROBLEM IN TERMS OF YOUR EDUCATIONAL PROGRESS?

1. _____ Not a problem
2. _____ Minor problem
3. _____ Difficult problem
4. _____ Serious problem

66. ARE LOANS OR FINANCIAL ASSISTANCE AVAILABLE TO STUDENTS AT YOUR JUNIOR COLLEGE THROUGH THE STUDENT PERSONNEL SERVICES?

1. _____ Yes (please give examples: _____)
2. _____ No
3. _____ I don't know
4. _____ I think so

67. HAVE YOU EVER HEARD OF ANY LOANS, SCHOLARSHIPS OR WORK STUDY PROGRAMS FUNDED BY THE FEDERAL GOVERNMENT FOR JUNIOR COLLEGE STUDENTS?

1. _____ Yes (please specify)
2. _____ No

68. HAVE YOU EVER TRIED TO GET A SCHOLARSHIP OR LOAN WHILE ENROLLED IN THIS SCHOOL?

1. _____ No
2. _____ Yes, but none were available
3. _____ Yes, but was unsuccessful for other reasons
4. _____ Yes, I received a loan or scholarship (please specify)

(9) OCCUPATIONAL STATUS

69. PLEASE INDICATE BELOW YOUR PRESENT EMPLOYMENT PLANS, IF ANY.

1. _____ I am presently employed
2. _____ I am not working, and do not plan to work while in college
3. _____ I am not working, but am looking for a part-time job
4. _____ I am not working, but am looking for a full-time job
5. _____ I have not made any plans yet

70. IF YOU ARE NOW WORKING, PLEASE INDICATE HOW MANY HOURS PER WEEK YOU ARE EMPLOYED. (Answer only if you are presently employed.)

1. _____ 9 hours per week or less
2. _____ 10 to 19 hours per week
3. _____ 20 to 29 hours per week
4. _____ 30 to 39 hours per week
5. _____ 40 or more hours per week
6. _____ Does not apply

71. IF YOU ARE PRESENTLY EMPLOYED OR HAVE BEEN RECENTLY EMPLOYED, WHAT TYPE OF WORK DO YOU DO?

1. _____ General worker (such as custodian, farm laborer, general and domestic laborer)
2. _____ Semi-skilled worker (such as machine operator, retail clerk, waitress, truck driver, mail carrier, barber)
3. _____ Skilled clerical or sales (such as bookkeeper, sales representative, secretary)
4. _____ Skilled craftsman or foreman (such as electrician, baker, carpenter, bricklayer, factory foreman)
5. _____ Protective service worker (such as policeman, military, fireman)

6. _____ Owner or manager of small business or firm (such as insurance - real estate agent, store proprietor, contractor)
7. _____ Farm owner or manager
8. _____ Semi-professional or technician (such as programmer, lab technician)
9. _____ Managerial and professional I (such as bank manager, public administrator, clergyman, school teacher, engineer, certified public accountant)
10 _____ Managerial and professional II (such as physician, professor, lawyer)
11. _____ Housewife
12. _____ Other (please specify)
13. _____ Does not apply

72. IF YOU ARE PRESENTLY WORKING, INDICATE THE MAJOR REASON FOR YOUR EMPLOYMENT.

1. _____ I work to support myself or my own family
2. _____ I need the money to pay for my education
3. _____ I work primarily to get extra spending money for entertainment, clothes, car expenses, etc.
4. _____ I work to help support my parents
5. _____ I like my job
6. _____ Other (please specify)
7. _____ Does not apply

73. IF EMPLOYED, HOW IS YOUR PRESENT JOB RELATED TO YOUR PRESENT JOB RELATED TO YOUR COURSE OF STUDY?

1. _____ Directly related to my course of study
2. _____ In a related, but different area
3. _____ Not related
4. _____ Does not apply

74. (A) DO YOU PLAN TO MAKE A CAREER OF YOUR RECENT OR PRESENT OCCUPATION?

	Yes	No	Does not apply
1. Recent occupation	_____	_____	_____
2. Present occupation	_____	_____	_____

74. (B) PLEASE DESCRIBE AS BEST YOU CAN THE NATURE OF THE WORK YOU DO OR RECENTLY DID. State exactly what work you do or recently did and at what kind of place you work or recently worked. For example: "I sell clothes in a department store."

1. Recent occupation: _____

2. Present occuation: _____

75. HOW DOES WORKING AFFECT YOUR EDUCATIONAL PROGRESS? (Please check all that apply)

1. _____ I don't work
2. _____ I have less time to study
3. _____ I've had to carry fewer courses
4. _____ I've had to drop a course
5. _____ I've earned a lower grade in a class
6. _____ I've failed a class
7. _____ It will take me longer to finish school
8. _____ I may have to withdraw from school temporarily
9. _____ I may not be able to finish school
10. _____ Has no effect
11. _____ Does not apply

FACULTY QUESTIONNAIRE ITEMS

(1) PERSONAL CHARACTERISTICS AND BACKGROUND

1. WHAT IS THE NAME OF THE JUNIOR COLLEGE WHERE YOU ARE PRESENTLY EMPLOYED?

   _____

2. WHAT WAS YOUR AGE AS OF SEPTEMBER 1, 1971? _____

3. WHAT IS YOUR SEX? 1. _____ Male 2. _____ Female

4. WHAT IS YOUR MARITAL STATUS?
   1. _____ Married
   2. _____ Never Married
   3. _____ Separated, Divorced
   4. _____ Widowed

5. HOW MANY CHILDREN DO YOU HAVE?
   1. _____ None
   2. _____ 1-2
   3. _____ 3-4
   4. _____ 5 or more

6. WHAT IS YOUR RACIAL OR ETHNIC GROUP? (Please check one.)
   1. _____ American Indian
   2. _____ Caucasian/White
   3. _____ Negro/Black
   4. _____ Oriental
   5. _____ Spanish Surname:
      a. _____ Mexican American/Chicano
      b. _____ Puerto Rican
      c. _____ Other (Please specify: ____ . .)
   6. _____ Other (Please specify: _____ . . . .)

7. WHICH OF THE FOLLOWING BEST DESCRIBES THE COMMUNITY YOU CONSIDER TO BE YOUR HOME (a) WHEN YOU WERE AN ADOLESCENT AND (b) AT PRESENT (Please check each column once.)

	(a) Adolescent	(b) At Present
1. Large City (over 500,000)		
a. Within the city	_____	_____
b. In a suburb of the city	_____	_____

2. City (50,000 to 500,000)
   a. Within the city _____ _____
   b. In a suburb of the city _____ _____
3. Small City or Town
   (less than 50,000) _____ _____
4. Farm or Open Country _____ _____

8. WHICH OF THE FOLLOWING GROUPS COMPRISE 10 PERCENT OR MORE OF THE POPULATION OF YOUR NEIGHBORHOOD (a) WHILE IN HIGH SCHOOL AND (b) AT PRESENT (Please check all that apply.)

	(a) While in High School	(b) At Present
1. American Indian	_____	_____
2. Caucasian/White	_____	_____
3. Negro/Black	_____	_____
4. Oriental	_____	_____
5. Spanish Surname (Mexican-American/Chicano, Puerto Rican)	_____	_____
6. Other (Please specify: ___ . .)	_____	_____

9. WHAT IS YOUR ESTIMATE OF THE AVERAGE FAMILY INCOME IN YOUR NEIGHBORHOOD (a) WHEN YOU WERE AN ADOLESCENT AND (b) AT PRESENT? (Please check each column once.)

	(a) Adolescent	(b) At Present
1. Less than $3,000	_____	_____
2. $ 3,001 to $ 6,000	_____	_____
3. $ 6,001 to $10,000	_____	_____
4. $10,001 to $15,000	_____	_____
5. $15,001 to $25,000	_____	_____
6. Over $25,000	_____	_____

10. DO YOU LIVE WITHIN 10 MILES OF THE JUNIOR COLLEGE WHERE YOU TEACH?
    1. _____ Yes
    2. _____ No

11. WHAT IS YOUR RELIGIOUS AFFILIATION AND THAT OF YOUR PARENTS? (Please check each column once; if your parents are deceased, indicate their religious affiliation when they were alive.)

	Self	Father	Mother
1. Catholic	_____	_____	_____
2. Jewish	_____	_____	_____
3. Protestant	_____	_____	_____
4. None	_____	_____	_____

5. Other (Please specify: _____ . . . .)

12. HOW MANY BOOKS WERE IN YOUR HOME WHEN YOU WERE 17 YEARS OLD?

1. _____ Under 25
2. _____ 26-50
3. _____ 51-100
4. _____ 101-200
5. _____ 201-500
6. _____ Over 500

13. WHAT IS THE HIGHEST FORMAL EDUCATION LEVEL ATTAINED BY YOUR MOTHER AND FATHER? (Please check each column once.)

	Mother	Father
1. 8th grade or less	_____	_____
2. Some high school	_____	_____
3. High school graduate	_____	_____
4. Vocational-technical or business training beyond high school	_____	_____
5. Some college	_____	_____
6. Bachelor's degree	_____	_____
7. Some graduate work	_____	_____
8. Master's degree	_____	_____
9. Doctorate or professional degree	_____	_____
10. Don't know	_____	_____

14. PLEASE INDICATE THE OCCUPATIONAL CLASSIFICATION OF BOTH YOUR FATHER AND MOTHER WHEN YOU WERE 17 YEARS OLD, AND YOUR SPOUSE'S CURRENT OCCUPATION, IF MARRIED. (Please check each column once.)

	Father	Mother	Spouse
1. General worker (such as custodian, farm laborer, general and domestic laborer)	____	____	____
2. Semi-skilled worker (such as machine operator, retail clerk, waitress, truck driver, mail carrier, barber)	____	____	____
3. Skilled clerical or sales (such as bookkeeper, sales representative, secretary)	____	____	____
4. Skilled craftsman or foreman (such as electrician, baker, carpenter, bricklayer, factory foreman	____	____	____
5. Protective service worker (such as policeman, military, fireman)	____	____	____
6. Owner or manager of small business or firm (such as insurance-real estate agent, store proprietor, contractor)	____	____	____
7. Farm owner or manager	____	____	____
8. Semi-professional or technician (such as bank manager, public administrator, clergyman, school teacher, engineer, certified public accountant	____	____	____
9. Managerial and professional I (such as bank manager, public administrator, clergyman, school teacher, engineer, certified public accountant)	____	____	____
10. Managerial and professional II (such as physician, professor, lawyer)	____	____	____
11. Housewife	____	____	____
12. Do not know	____	____	____
13. Unemployed	____	____	____
14. Other	____	____	____

(2) PERSONAL TRAITS & ATTITUDES

15. THE STATEMENTS BELOW EXPRESS VIEWPOINTS THAT SOME PEOPLE AGREE WITH AND OTHERS DON'T. (Indicate your own attitude by marking one of the spaces to the right of each statement. A = Agree; ? = No Opinion; D = Disagree.)

	A	?	D
1. Government planning should be strictly limited, for it almost inevitably results in the loss of essential liberty and freedom.	____	____	____
2. We are not likely to have lasting peace unless the U.S. and its allies are stronger than all the other countries.	____	____	____
3. The United Nations should have the right to make decisions that would bind members to a course of action.	____	____	____
4. Literature should not question the basic moral concepts of society.	____	____	____
5. The United States has enough natural resources and scientific know-how to be economically self-sufficient.	____	____	____
6. Parents know as much about how to teach children as public school teachers know.	____	____	____
7. More women should be involved in policy formation both in business and government.	____	____	____
8. Professional women should have the same benefits and opportunities as their male colleagues.	____	____	____
9. Being a housewife provides many opportunities to apply broad and creative interests.	____	____	____
10. Family patterns and attitudes should allow, and often encourage, married women to follow their own interests, even if they have young children.	____	____	____
11. If Negroes live poorly, it is in great part the fault of discrimination and neglect from whites.	____	____	____
12. Anyone, no matter what his color, who is willing to work hard can get ahead in life.	____	____	____
13. More money and effort should be spent on education, welfare and self-help programs for the culturally disadvantaged.	____	____	____

14. Issues such as law and order, civil rights and public demonstrations are complex and need careful evaluation and judgment of individual cases. ____ ____

16. ALL OF US HAVE DIFFERENT PREFERENCES AND PERSONALITY CHARACTERISTICS. WE SHOULD LIKE TO KNOW MORE ABOUT THE RELATIONSHIP OF DIFFERENT CHOICES AND TRAITS TO IMPORTANT COLLEGE AND SUBSEQUENT CAREER EXPERIENCES. (Please mark "yes" for all the items you generally like; "no" for those you do not generally like.)

I generally like:	Yes	No
1. Unquestioning obedience	____	____
2. Strict law enforcement	____	____
3. The tried and true	____	____
4. Determination and ambition	____	____
5. Strong family ties	____	____
6. Unwavering patriotism	____	____
7. Perfect balance in composition	____	____
8. Novel experiences	____	____
9. Predictable outcomes to problems	____	____
10. Original work	____	____
11. A set schedule of activities	____	____
12. A proper place for everything	____	____
13. The one right answer to questions	____	____
14. Friends without complex problems	____	____
15. Straight-forward reasoning	____	____
16. Dealing with new or strange ideas	____	____
17. The perfectly completed object	____	____
18. Quick unhesitating decisions	____	____
19. Original research work	____	____
20. To draw my own conclusions	____	____
21. Solving long, complex problems	____	____
22. Critical consideration of theories	____	____
23. Science and mathematics	____	____
24. Contemplating the future of society	____	____
25. Men interested in ideas	____	____

26. Disc ...nd how things work _____ _____
27. Scien...fic displays _____ _____
28. Detecting faulty reasoning _____ _____

17. IN WHAT ACTIVITIES HAVE YOU ENGAGED DURING THE PAST YEAR IN THE COMMUNITY SERVED BY THIS COLLEGE? (Please check each item applicable.)

1. _____ I talked about local community problems with my friends
2. _____ I followed local events regularly in my newspaper
3. _____ I gave money to the community fund or chest or other local charity
4. _____ I belonged to a community interested in civic affairs (such as PTA, Chamber of Commerce, League of Women Voters, business or professional association, etc.)
5. _____ I attended meetings of some local civic group
6. _____ I contributed time or money to some civic project (such as a playground, park, school, hospital, theater, etc.)
7. _____ I had contact with a local official about some community problem
8. _____ I collected money, called on my neighbors, carried a petition, or engaged in some similar activity on behalf of a local community project
9. _____ I voted in the last local election
10. _____ I attended a public hearing about a local issue (such as zoning, schools, taxes, traffic, etc.)
11. _____ I participated in a demonstration or protest about a local issue
12. _____ I held office in some local civic group or community organization
13. _____ Other (Please specify: _____ . . . .)
14. _____ Does not apply

(3) EDUCATIONAL BACKGROUND

18. HAVE YOU EVER ATTENDED A JUNIOR COLLEGE OR A TWO-YEAR TECHNICAL INSTITUTE? (Please check each line, "Yes" or "No")

	Yes	No
1. Junior college	_____	_____
2. Two-year technical institute	_____	_____

19. PLEASE INDICATE BELOW THE DEGREES YOU HAVE EARNED AND AT WHAT TYPE OF INSTITUTION UNDER SECTION "a." IF YOU ARE CURRENTLY WORKING TOWARD A DEGREE, PLEASE INDICATE WHICH DEGREE AND AT WHAT TYPE OF INSTITUTION UNDER SECTION "b." (Please check each section, "a" and "b", if applicable.)

	(a) Earned Degrees				(b) Current Work			
	AA	BA	MA	Prof. Ed.D. Ph.D.	AA	BA	MA	Prof. Ed.D. Ph.D.
	1	2	3	4	1	2	3	4
1. Public Junior College	—				—			
2. Private Junior College	—				—			
3. Public Teachers College	—	—	—		—	—	—	
4. Private Teachers College	—	—	—		—	—	—	
5. Public Four-year College	—	—	—	—	—	—	—	—
6. Private Four-year College	—	—	—	—	—	—	—	—
7. Public University	—	—	—	—	—	—	—	—
8. Private University	—	—	—	—	—	—	—	—
9. Other (please specify: _____)	—	—	—	—	—	—	—	—
10. Does not apply	—	—	—	—	—	—	—	—

20. IN WHAT YEAR DID YOU RECEIVE YOUR HIGHEST DEGREE?

_____

21. PLEASE INDICATE THE MAJOR FIELD IN WHICH YOU HAVE EARNED EACH OF YOUR DEGREES IN COLUMN "a" (1 through 4). INDICATE THE FIELD(S) IN WHICH YOU ARE NOW DOING ACADEMIC WORK IN COLUMN "b" (5). INDICATE THE FIELD(S) IN WHICH YOU ARE NOW TEACHING IN COLUMN "c" (6). (Please check each column where applicable.)

	(a) Degree(s) earned				(b) Current Academic Work	(c) Teaching area
	AA	BA	MA	Prof. Ed.D. Ph.D.		
	1	2	3	4	5	6
1. Physical science	—	—	—	—	—	—
2. Engineering	—	—	—	—	—	—
3. Biological science	—	—	—	—	—	—
4. Social science	—	—	—	—	—	—
5. Fine arts	—	—	—	—	—	—
6. Humanities	—	—	—	—	—	—
7. Medical science (M.D., Dentistry, Pharmacy, etc.)	—	—	—	—	—	—
8. Law	—	—	—	—	—	—
9. Education	—	—	—	—	—	—
10. Architecture	—	—	—	—	—	—
11. Agriculture, forestry	—	—	—	—	—	—
12. Business	—	—	—	—	—	—
13. Health services (Nursing, medical technology, etc.)	—	—	—	—	—	—
14. Public-personnel service, home economics, etc.)	—	—	—	—	—	—
15. Trade-technical	—	—	—	—	—	—
16. Does not apply	—	—	—	—	—	—
17. Other	—	—	—	—	—	—

22. IN WHAT YEAR DID YOU LAST TAKE A COURSE IN YOUR MAJOR FIELD? _____

23. IF YOU ARE PRESENTLY WORKING TOWARDS A DEGREE, WHEN DO YOU EXPECT TO RECEIVE IT?
Does not apply _____

24. HAVE YOU COMPLETED THE REQUIREMENTS OR ARE YOU TAKING COURSES TOWARD AN ADMINISTRATIVE, COUNSELING OR OTHER NON-TEACHING POSITION?

1. _____ Yes
2. _____ No

IF YES, WHICH POSITION? (If you have completed the requirements, please write in the year in column "a." If you are presently taking courses, please check column "b.")

	(a) Year completed	(b) Current courses
1. Administrative	_____	_____
2. Counseling	_____	_____
3. Other (Please specify)	_____	_____
4. Does not apply	_____	_____

(4) EMPLOYMENT STATUS AND ACTIVITIES

25. AT WHAT TYPE OF EDUCATIONAL INSTITUTION WOULD YOU MOST PREFER EMPLOYMENT? (Please check only one.)

1. _____ Elementary School
2. _____ High School
3. _____ Public Junior College
4. _____ Private Junior College
5. _____ Public Teachers College
6. _____ Private Teachers College
7. _____ Public Four-year College
8. _____ Private Four-year College
9. _____ Public University
10. _____ Private University
11. _____ Other (Please specify)

26. HOW MANY YEARS HAVE YOU BEEN A JUNIOR COLLEGE TEACHER? _____

27. HAVE YOU HAD WORK EXPERIENCE IN EDUCATION PRIOR TO YOUR CURRENT POSITION?

1. _____ Yes 2. _____ No

IF YES, WRITE IN THE NUMBER OF YEARS YOU WERE EMPLOYED IN EACH TYPE OF POSITION INDICATED AT EACH TYPE OF INSTITUTION LISTED.

TYPE OF INSTITUTION	NUMBER OF YEARS IN EACH POSITION		
	Faculty	Counselor	Administrator
1. Elementary	____	____	____
2. Secondary	____	____	____
3. Public Junior College	____	____	____
4. Private Junior College	____	____	____
5. Public Teachers College	____	____	____
6. Private Teachers College	____	____	____
7. Public Four-year College	____	____	____
8. Private Four-year College	____	____	____
9. Public University	____	____	____
10. Private University	____	____	____
11. Other (Please specify)	____	____	____
12. Does not apply	____	____	____

28. PLEASE INDICATE THE LENGTH OF YOUR EMPLOYMENT IN THE OCCUPATION(S) OUTSIDE OF EDUCATION LISTED BELOW. (Please check all that apply)

OCCUPATION	1-3 Yrs.	3-10 Yrs.	10+Yrs.	Does not Apply
1. General worker (such as custodian, farm laborer, general and domestic laborer)	____	____	____	____
2. Semi-skilled worker (such as machine operator, retail clerk, waitress, truck driver, mail carrier, barber)	____	____	____	____
3. Skilled clerical or sales (such as bookkeeper, sales representative, secretary)	____	____	____	____
4. Skilled craftsman or foreman (such as electrician, baker, carpenter, bricklayer, factory foreman)	____	____	____	____
5. Protective service worker (such as policeman, military, fireman)	____	____	____	____
6. Owner or manager of small business or firm (such as insurance - real estate agent, store proprietor, contractor)	____	____	____	____
7. Farm owner or manager	____	____	____	____
8. Semi-professional or technician (such as programmer, lab technician)	____	____	____	____
9. Managerial and professional I (such as bank manager, public administrator, clergyman, school teacher, engineer, certified public accountant)	____	____	____	____
10. Managerial and professional II (such as physician, professor, lawyer)	____	____	____	____

OCCUPATION	1-3 Yrs.	3-10 Yrs.	10+Yrs.	Does not Apply
11. Housewife	_____	_____	_____	_____
12. Unemployed	_____	_____	_____	_____
13. Other	_____	_____	_____	_____

29. WHAT YEAR WERE YOU HIRED BY THIS DISTRICT OR INSTITUTION? _____

30. HOW DID YOU FIRST LEARN ABOUT YOUR PRESENT POSITION? (Check only one.)

1. _____ By direct or indirect contact with someone employed by this institution
2. _____ By notice of vacancy sent to previous employer
3. _____ At my college placement service
4. _____ Through a professional organization (e.g., teachers' association, scholarship or research organization)
5. _____ Self-initiated application
6. _____ Other (Please specify)

31. ARE YOU WORKING FULL-TIME OR PART-TIME AT THIS INSTITUTION?

1. _____ Full-time
2. _____ Part time

32. (A) DO YOU WORK ADDITIONAL HOURS FOR COMPENSATION AT YOUR INSTITUTION BEYOUND YOUR REGULAR WORKING HOURS? (Exclusive of summer)

1. _____ No
2. _____ Yes

IF YES: Position _____

Hours per week _____

(B) DO YOU HOLD A JOB OUTSIDE OF THIS INSTITUTION? (Please describe the position and indicate the number of hours)

1. _____ No
2. _____ Yes

IF YES: Position _____

Hours per week _____

33. WHAT IS YOUR REGULAR WORKING SCHEDULE AT THIS INSTITUTION? (Exclusive of teaching preparation)

1. _____ Days
2. _____ Nights
3. _____ Days and Nights

34. IF THIS INSTITUTION GRANTS TENURE (SECURITY OF EMPLOYMENT), DO YOU HAVE IT?

1. _____ Yes
2. _____ No
3. _____ Does not apply

35. HOW MANY HOURS ON THE AVERAGE DO YOU WORK PER WEEK IN THE FOLLOWING CAPACITIES? (Please answer as many items as apply.)

1. _____ Instructor
2. _____ Institutional researcher
3. _____ Counselor
4. _____ Administrator (dean or above)
5. _____ Administrator below dean (department or division chairman, coordinator, etc.)
6. _____ Other (Please specify)

36. IF YOU TEACH AT THIS INSTITUTION AS PART OF YOUR REGULAR ASSIGNMENT, HOW MANY HOURS A WEEK DO YOU SPEND IN THE FOLLOWING ACTIVITIES? (Please write in the number of hours for each applicable activity.)

1. _____ In class
2. _____ Preparing materials for class
3. _____ Correcting exams, reports, written assignments, etc.
4. _____ Meeting with students
5. _____ Supervising student activities (clubs, social events, etc.)
6. _____ Committee meetings related to institutional functioning, e.g., departmental meetings, budget, curriculum, etc.
7. _____ Activities involving professional teacher organizations
8. _____ Administrative duties
9. _____ Other teaching related activities (Please specify)
10. _____ Other non-teaching duties (Please specify)

37. ARE THE COURSES YOU TEACH PRIMARILY OCCUPATIONAL/VOCATIONAL, REMEDIAL/DEVELOPMENTAL, OR TRANSFER/GENERAL EDUCATION?

1. _____ Occupational/vocational
2. _____ Remedial/developmental
3. _____ Transfer/general education

38. HOW OFTEN DO YOU USE THE FOLLOWING INSTRUCTIONAL TECHNIQUES? (Please check the appropriate column for each item.)

	Regularly	Occasionally	Seldom or Never
1. Lecture	_____	_____	_____
2. Instructor led discussion	_____	_____	_____
3. Small group discussion	_____	_____	_____
4. Auto-tutorial	_____	_____	_____
5. Audio-visual	_____	_____	_____
6. Group projects and reports	_____	_____	_____
7. Individual project and reports	_____	_____	_____
8. Class drills or quizzes	_____	_____	_____
9. Other (please specify)	_____	_____	_____

39. HOW OFTEN DO YOU USE THE FOLLOWING EVALUATION TECHNIQUES IN THE ASSIGNMENT OF A FINAL GRADE? (Please check the appropriate column for each item.)

	Regularly	Occasionally	Seldom or Never
1. Midterm examinations	_____	_____	_____
2. Quizzes	_____	_____	_____
3. Class or laboratory projects	_____	_____	_____
4. Participation in class projects	_____	_____	_____
5. Short written reports	_____	_____	_____
6. Term papers	_____	_____	_____
7. Book reports	_____	_____	_____
8. Final examinations	_____	_____	_____
9. Attendance in class	_____	_____	_____
10. Other (Please specify)	_____	_____	_____

(5) EVALUATION

40. HOW SATISFIED ARE YOU AND YOUR COLLEAGUES REGARDING EACH OF THE FOLLOWING AREAS? (Indicate your feelings in column "a" and indicate in column "b" how you think most of your colleagues would answer according to the following code:

1	2	3
satisfied	neither satisfied nor dissatisfied	dissatisfied

		(a) Your feelings	(b) Your colleagues' feelings
1.	Policy related to promotion and tenure	_____	_____
2.	Job security, generally	_____	_____
3.	Assignments outside of classroom	_____	_____
4.	Salary schedule	_____	_____
5.	Job prestige	_____	_____
6.	Work load (amount of hours)	_____	_____
7.	Policy of board of trustees	_____	_____
8.	Policies of state governing agencies	_____	_____
9.	Opportunity for attending professional meetings	_____	_____
10.	School-community relationships	_____	_____
11.	Relationship with administrators	_____	_____
12.	Class size	_____	_____
13.	Quality of students	_____	_____
14.	Attitudes of student and behavior	_____	_____
15.	Facilities	_____	_____
16.	Relationship with academic faculty	_____	_____
17.	Relationship with vocational faculty	_____	_____
18.	Library facilities	_____	_____
19.	Other (Please specify)	_____	_____

41. IN YOUR OPINION, WHAT ARE THE THREE MOST IMPORTANT BENEFITS YOU FEEL THE COMMUNITY IS (a) PRESENTLY RECEIVING FROM THIS COLLEGE, AND (b) SHOULD IDEALLY RECEIVE? (For both "present" and "ideal" check the three most important benefits.)

	(a) Present (Check three)	(b) Ideal (Check three)
1. Training of skilled personnel to fill manpower needs of local industry	_____	_____
2. Allowing undecided students an opportunity to explor alternative educational/ vocational paths	_____	_____
3. Raising the intellectual and cultural level of the community	_____	_____
4. Developing talents and abilities of adults	_____	_____
5. Providing facilities for community use	_____	_____
6. Offering exposure to higher education to students who, for financial reasons, would not otherwise have had such an opportunity	_____	_____
7. Upgrading of skills or retraining for adults	_____	_____
8. Source of pride and identification for local community due to academic, athletics, vocational training, etc.	_____	_____
9. Attracting or holding significant business and industry to the community	_____	_____
10. Assisting in the development of the community	_____	_____
11. I don't know enough about the community to give an opinion	_____	_____
12. Other (Please specify)	_____	_____

42. (A) IN YOUR OPINION, TO WHAT EXTENT DO YOU THINK THE STUDENTS AT THIS JUNIOR COLLEGE (a) PRESENTLY DO AND (b) SHOULD RECEIVE THE FOLLOWING EDUCATIONAL BENEFITS? (Please check the appropriate column in section (a) do receive and (b) should receive.)

	(a) DO RECEIVE			(b) SHOULD RECEIVE		
	Very much	Some	Little/ none	Very much	Some	Little/ none
1. Vocational training (skills and techniques directly applicable to job)	___	___	___	___	___	___
2. Background and specialization for futher education in some professional scientific or scholarly field	___	___	___	___	___	___
3. Broadened literary acquaintance and appreciation	___	___	___	___	___	___
4. Awareness of different philosophies, cultures and ways of life	___	___	___	___	___	___
5. Social development (experience and skill in relating to other people	___	___	___	___	___	___
6. Personal development (understanding one's abilities and limitations, interests and standards of behavior)	___	___	___	___	___	___
7. Critical thinking (logic, inference, nature and limitations of knowledge)	___	___	___	___	___	___
8. Aesthetic sensitivity (appreciation and enjoyment of art, music, drama)	___	___	___	___	___	___
9. Writing and speaking skills (clear, correct, effective communication)	___	___	___	___	___	___
10. Science and technology (understanding and appreciation)	___	___	___	___	___	___

	(a) DO RECEIVE			(b) SHOULD RECEIVE		
	Very much	Some	Little/ none	Very much	Some	Little/ none
11. Citizenship (understanding and interest in the style and quality of civic and political life)	___	___	___	___	___	___
12. Appreciation of individuality and independence of thought and actic	___	___	___	___	___	___
13. Development of friendships and loyalties of lasting value						
14. Vocabulary, terminology and facts in various fields of knowledge	___	___	___	___	___	___
15. Appreciation of religion (moral and ethical standards)	___	___	___	___	___	___
16. Tolerance and understanding of other people and their values	___	___	___	___	___	___
17. Basis for imporved social and economic status	___	___	___	___	___	___

(B) NOW, PLEASE CIRCLE THE ONE BENEFIT LISTED ABOVE WHICH YOU THINK IS MOST IMPORTANT FOR THE STUDENTS AT YOUR COLLEGE TO RECEIVE.

43. IN YOUR OPINION, HOW DO MOST OF THE STUDENTS AT THIS INSTITUTION COMPARE WITH COLLEGE STUDENTS IN GENERAL ON THE FOLLOWING CHARACTERISTICS? (Please check each item in the appropriate column.)

	Below Average	Average	Above Average
1. Academic background	_____	_____	_____
2. Leadership ability	_____	_____	_____
3. Understanding of others	_____	_____	_____
4. Intelligence	_____	_____	_____
5. Social skills	_____	_____	_____
6. Drive to succeed	_____	_____	_____
7. Study havits	_____	_____	_____
8. Political interest	_____	_____	_____
9. Interest in social activities	_____	_____	_____
10. Emotional adjustment	_____	_____	_____
11. Self-confidence (academic)	_____	_____	_____
12. Self-confidence (social)	_____	_____	_____
13. Maturity	_____	_____	_____
14. Interest in school	_____	_____	_____
15. Awareness of political-social events	_____	_____	_____

44. IN YOUR OPINION, BASED ON WHAT YOU THINK IS DESIRABLE, WHAT ARE THE STRENGTHS AND WEAKNESSES OF YOUR COLLEGE'S STUDENT PERSONNEL PROGRAM. (Please mark each item.)

	Strong	Average	Weak
1. Admissions and registration	_____	_____	_____
2. Records and information	_____	_____	_____
3. Guidance and academic counseling	_____	_____	_____
4. Guidance and vocational counseling	_____	_____	_____
5. Placement for work	_____	_____	_____
6. Financial aids	_____	_____	_____
7. Student activities	_____	_____	_____
8. Special counseling for disadvantaged students	_____	_____	_____
9. Special counseling for students with academic problems	_____	_____	_____

45. RECOGNIZING THAT FACILITIES, PROCEDURES, POLICIES, REQUIREMENTS, ATTITUDES, ETC., DIFFER FROM ONE CAMPUS TO ANOTHER, WHAT DO YOU THINK IS CHARACTERISTIC OF YOUR CAMPUS? AS YOU READ EACH OF THE STATEMENTS BELOW, CHECK TRUE (T), IF THE STATEMENT DESCRIBES A CONDITION, EVENT, ATTITUDE, ETC., THAT YOU THINK IS GENERALLY CHARACTERISTIC OF YOUR COLLEGE. CHECK FALSE (F) IF YOU THINK IT IS NOT GENERALLY CHARACTERISTIC OF YOUR COLLEGE.

	Generally	
	T	F
1. Frequent tests are given in most courses.	_____	_____
2. The college offers many really practical courses such as typing, report writing, etc.	_____	_____

	Generally T	Generally F
3. The most important people at the school expect others to show proper respect for them.	____	____
4. There is a recognized group of student leaders on the campus.	____	____
5. Many upperclassmen play an active role in helping new students adjust to campus life.	____	____
6. The professors go out of their way to help their students.	____	____
7. The school has a reputation for being friendly.	____	____
8. Students find it easy to get a group together for card games, singing, going to the movies, etc.	____	____
9. Students are encouraged to criticize administrative policies and teaching practices.	____	____
10. The school offers many opportunities for students to understand and criticize important works in art, music, and drama.	____	____
11. Students are actively concerned about national and international affairs.	____	____
12. Many famous people are brought to the campus for lectures, concerts, student discussions.	____	____
13. Students are conscientious about taking good care of school property.	____	____
14. Students are expected to report any violation of rules and regulations.	____	____
15. Students ask permission before deviating from common policies or practices.	____	____
16. Student publications never lampoon dignified people or institutions.	____	____
17. Most courses provide a real intellectual challenge.	____	____
18. Students set high standards of achievement for themselves.	____	____
19. Most courses require intensive study and preparation out of class.	____	____
20. Careful reasoning and clear logic are valued most highly in grading student papers, reports, or discussions.	____	____

46. WHAT ARE THE THREE MOST IMPORTANT REASONS YOU CHOSE THIS JUNIOR COLLEGE? (Please check your one most important reason in the first column, your second most important reason in the second column, and your third most important reason in the third column. Check only one reason in each column.)

	First Most Important	Second Most Important	Third Most Important	
1.	_____	_____	_____	Friends at this institution
2.	_____	_____	_____	Wanted to teach at college level
3.	_____	_____	_____	Desirable location
4.	_____	_____	_____	Salary
5.	_____	_____	_____	Best job-offer at the time
6.	_____	_____	_____	Needed job while earning higher degree
7.	_____	_____	_____	Stimulating environment
8.	_____	_____	_____	Dissatisfied with previous position
9.	_____	_____	_____	Other (Please specify) _____.....

(6) PERSONAL OPINIONS ABOUT JUNIOR COLLECES

47. WHAT TYPE OF COLLEGE WOULD YOU PREFER YOUR CHILDREN TO ATTEND FOR THE FIRST TWO YEARS IF ADMISSION AND FINANCES WERE NO CONSIDERATION? (Please indicate your first, second and third choices by writing 1,2,3.)

1. _____ Public Junior College
2. _____ Private junior College
3. _____ Public Teachers College
4. _____ Private Teachers College
5. _____ Public Four-year College
6. _____ Private Four-year College
7. _____ Public University
8. _____ Private University
9. _____ Other (Please specify)
10. _____ It would not make any difference.

48. ASSUMING LIMITED RESOURCES, WHAT IN YOU OPINION ARE THE TWO MOST AND THE TWO LEAST IMPORTANT EDUCATIONAL PRIORITIES OF YOUR JUNIOR COLLEGE? (In column one check the two most important, and in column two the two least important priorities.)

	Most Important (check two)	Lease Important (check two)
1. Education for transfer to a four-year institution	_____	_____
2. Continuing education (college credit)	_____	_____
3. Adult education (non-college credit)	_____	_____
4. Remedial and "high potential" programs for disadvantaged students	_____	_____
5. Vocational training	_____	_____
6. Special occupational programs for local business and industry	_____	_____
7. Other (please specify)	_____	_____

49. IN YOUR OPINION, WHAT ARE THE FUTURE PROSPECTS FOR THE JUNIOR COLLEGE SYSTEM? (Check in column "a" what you expect to occur and in column "b" what you would like to see occur. Check as many as apply.)

	(a) Expect to occur	(b) Would like to see occur
1. Conversion of most two-year colleges to four-year colleges	_____	_____
2. Assume all lower division responsibilities from present four-year institutions	_____	_____
3. Move occupational programs to technical institutions	_____	_____
4. Move secondary level occupational programs to area vocational schools	_____	_____
5. Expand continuing education	_____	_____
6. Expand occupational education program	_____	_____
7. Continue operation of the junior colleges essentially as they are	_____	_____
8. Other (Please specify)	_____	_____

50. WE WOULD APPRECIATE A BRIEF NOTE ON THE REACTIONS YOU HAVE TO THIS SURVEY QUESTIONNAIRE OR TO THE PURPOSES OF THIS STUDY GENERALLY. _____.....

51. IN YOUR OPINION, TO WHAT EXTENT SHOULD YOUR JUNIOR COLLEGE EXERT CONTROL OVER THE FOLLOWING STUDENT BEHAVIORS? (Please check each item.)

	Considerable	Moderate	Little
1. Dress and grooming standards	____	____	____
2. Speech (profanity)	____	____	____
3. Expressive art and music	____	____	____
4. Student publication of newspaper	____	____	____
5. Student speaker's program selections	____	____	____
6. On campus political organizations	____	____	____
7. Campus student protest	____	____	____
8 Student housing arrangements	____	____	____

52. WHICH GROUP DO YOU THINK SHOULD HAVE THE PRIMARY AND WHICH THE SECONDARY RESPONSIBILITY FOR THE FOLLOWING ACTIVITIES? (For each activity write a "1" under the group you think should have primary responsibility, a "2" under the group that should have some responsibility and "0" for no responsibility. Please write a number in each column for each activity. You may use the same number more than once.)

	Faculty	Administration	Trustees or governing board	Students
1. Student admissions	____	____	____	____
2. Degree Requirements and curriculum development	____	____	____	____
3. Hiring of faculty and counselors	____	____	____	____
4. Administrative selection (other than president)	____	____	____	____
5. Selection of president	____	____	____	____
6. Administrative evaluation	____	____	____	____
7. Faculty teaching evaluation	____	____	____	____
8. Student conduct	____	____	____	____
9. Salaries, budget and resource allocation	____	____	____	____

	Faculty	Administration	Trustees or governing board	Student
10. Teaching assignments	____	____	____	____
11. Selection of departmental chairman	____	____	____	____
12. Other (Please specify)	____	____	____	____

53. WHICH ARE THE THREE MOST IMPORTANT QUALIFICATIONS YOU THINK A JUNIOR COLLEGE INSTRUCTOR SHOULD HAVE? (Please check the one most important qualification in the first column; your second most important qualification in the second column; and your third most important qualification in the third column. Check only one qualification in each column.)

	First Most Important	Second Most Important	Third Most Important	
1.	____	____	____	Teaching experience at the elementary or secondary level
2.	____	____	____	Teaching experience at the junior college level
3.	____	____	____	Teaching experience at a four-year institution
4.	____	____	____	Outstanding undergraduate/ graduate academic record
5.	____	____	____	Demonstrated interest in student problems and activities
6.	____	____	____	Demonstrated scholarly work
7.	____	____	____	Wide range of work experience other than teaching
8.	____	____	____	Other (Please specify)

COUNSELOR QUESTIONNAIRE ITEMS

1. WHAT IS THE NAME OF THE JUNIOR COLLEGE WHERE YOU ARE PRESENTLY EMPLOYED?

   _____ . . . .

2. HOW MANY HOURS A WEEK ON THE AVERAGE DO YOU SPEND IN EACH OF THE FOLLOWING ACTIVITIES? (Please enter the hours you spend weekly in each of the following appropriate activities.)

   1. _____ Meetings
   2. _____ Counseling
   3. _____ Research
   4. _____ Teaching
   5. _____ Other activities at the institution (Please specify: _____ . . . .)

3. IF YOU ARE INVOLVED IN RESEARCH OF ANY KIND, PLEASE EXPLAIN IT BRIEFLY:

   1. _____ . . . .
   2. _____ Does not apply

4. DO COUNSELORS AT YOUR JUNIOR COLLEGE PARTICIPATE IN PLANNING CURRICULUM AND COURSE DEVELOPMENT?

   1. _____ Yes, a great deal
   2. _____ Yes, sometimes
   3. _____ No

5. TO WHAT EXTENT ARE COUNSELORS AT YOUR JUNIOR COLLEGE FREE TO PLAN THEIR OWN SCHEDULES?

   1. _____ Very much
   2. _____ Some
   3. _____ Very little

6. DO COUNSELORS AT YOUR JUNIOR COLLEGE HAVE SYSTEMATIC FEEDBACK FROM FACULTY, STUDENTS AND ADMINISTRATORS CONCERNING HOW WELL THEY ARE PERFORMING THEIR FUNCTIONS? (Please check for faculty, students, and administrators.)

	Yes	No	I don't know
1. Faculty	_____	_____	_____
2. Students	_____	_____	_____
3. Administrators	_____	_____	_____

4. _____ Does not apply

PLEASE EXPLAIN THE NATURE OF THIS FEEDBACK. REFER TO EACH GROUP FOR WHICH YOU INDICATED FEEDBACK. _____ . . . .

7. TO WHAT EXTENT ARE COUNSELORS AT THIS JUNIOR COLLEGE INVOLVED WITH SCHOOL POLICY RELATED TO THE COUNSELING PROGRAM? (e.g., counselor confidentiality, etc.)

1. _____ They have considerable input and influence
2. _____ They have some limited input
3. _____ They have no input
4. _____ I don't know

8. HOW ACCESSIBLE ARE THE COUNSELORS AT THIS JUNIOR COLLEGE? (Please check all items that apply.)

1. _____ Students have a long waiting period for an appointment
2. _____ An appointment is generally scheduled a few days after a student requests one
3. _____ Students may walk-in, no appointment is necessary
4. _____ In addition to scheduled appointments, a counselor is available for walk-in sessions
5. _____ Special effort is made to reach students in need of counseling who do not ordinarily request an appointment
6. _____ ____ Other (Please specify: _____ . . . .)

9. WHEN YOU SEE STUDENTS FOR A SCHEDULED APPOINTMENT, WHICH OF THE FOLLOWING KINDS OF RECORDS DO YOU HAVE READILY ACCESSIBLE FOR EACH STUDENT? (Please check all that apply.)

1. _____ High school transcript
2. _____ Grades at college
3. _____ Aptitude and achievement test scores
4. _____ Disciplinary record

5. _____ Extracurricular and work record
6. _____ Personal comments from teachers
7. _____ No files are accessible
8. _____ Other (Please specify: _____ . . . .)

10. WHEN YOU SEE STUDENTS FOR SCHEDULED APPOINTMENTS, HOW LONG IS THE AVERAGE APPOINTMENT?
    1. _____ Less than 15 minutes
    2. _____ 15 to 30 minutes
    3. _____ 30 to 60 minutes

11. IS THIS AMOUNT OF TIME USUALLY SUFFICIENT?
    1. _____ Yes
    2. _____ No

12. WHAT PERCENTAGE OF YOUR COUNSELING SESSIONS ARE DEVOTED TO EACH OF THE FOLLOWING ACTIVITIES? (Time should total 100%)
    1. _____% Program planning (course selection)
    2. _____% Vocational guidance
    3. _____% Counseling on academic problems
    4. _____% Counseling on personal problems
    5. _____% Other (Please specify: _____ . . . .)

13. WHAT DEGREE OF CONFIDENTIALITY ARE COUNSELORS AT THIS JUNIOR COLLEGE ALLOWED TO MAINTAIN WITH STUDENTS?
    1. _____ Total confidentiality
    2. _____ Some
    3. _____ Very limited

14. DO YOU KEEP A RECORD OF WHAT HAPPENS DURING EACH COUNSELING SESSION?
    1. _____ Yes, always
    2. _____ Yes, most times
    3. _____ Yes, sometimes
    4. _____ No files are kept

15. IF FILES ARE KEPT, HOW WOULD YOU CLASSIFY THESE RECORDS?

1. _____ Formal records
2. _____ Formal notes
3. _____ Informal notes
4. _____ Does not apply

16. HOW FREQUENTLY DO YOU SEE THE FOLLOWING TYPES OF STUDENTS? (Please check the appropriate column for each type of student.)

	Seen frequently	Seen occasionally	Seldom seen
1. Students who make voluntary appointments	_____	_____	_____
2. Students who walk in for informal counseling	_____	_____	_____
3. Students registered for compulsory appointment	_____	_____	_____
4. Students you contact for an appointment	_____	_____	_____

17. IN YOUR OPINION, WHAT ARE THE MAJOR PROBLEMS OF YOUR STUDENTS (e.g., low ability, unrealistic aspirations, lack of vocational information, uncertainty about future plans.) _____ . . . .

18. WHAT METHODS DO YOU USE TO REACH STUDENTS WHO ARE IN NEED OF COUNSELING ASSISTANCE, BUT DO NOT COME TO THE COUNSELING OFFICE FOR HELP?

_____ . . . .

19. WHAT WOULD YOU LIKE TO SEE CHANGED THAT WOULD INCREASE YOUR JOB SATISFACTION? _____ . . . .

20. WHAT DO YOU THINK WOULD IMPROVE THE STUDENT PERSONNEL PROGRAM? (Please check all items that apply.)

1. _____ More time for vocational testing
2. _____ More group counseling
3. _____ More time to deal with students who have academic problems

4. _____ More time for personal counseling other than program advisement, scheduling, etc.
5. _____ More information on students' performance
6. _____ Other (Please specify: _____ . . . .)

21. IF YOU COULD MAKE ONLY ONE SUGGESTION TO IMPROVE THE STUDENT PERSONNEL PROGRAM, WHAT WOULD IT BE? _____ . . . .

22. DO YOU FEEL YOUR COUNSELING PROGRAM IS REACHING THE STUDENTS WHO NEED IT?
1. _____ Yes
2. _____ No
3. _____ I don't know
(If no, please explain: _____ . . . .)

23. HOW COULD COUNSELING SESSIONS BE IMPROVED? (Please explain briefly.)
_____ . . . .

24. IF YOU HAD A CHOICE, HOW WOULD YOU PREFER TO SPEND YOUR TIME PROFESSIONALLY?
_____ . . . .